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# Canadian LIVE STOCK JOURNAL

Vol. XII. No. 7.]

TORONTO, JULY, 1895.

[WHOLE No. 140.

**BEST ALWAYS CHEAPEST**

**INGLESIDE  
HEREFORDS**  
THE UP-TO-DATE  
HERD OF CANADA

A few choice young bulls for sale. Satisfaction guaranteed.

**H. D. SMITH**

Ingleside Farm, COMPTON, Ont.  
G.T.R. Station 2 1/2 miles.

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A sale of the best stock at Isaleigh Grange Farm, Danville, Que., will be held in September one of the greatest stock sales that have ever taken place in this country. Mr. J. N. Greenshields, proprietor of Isaleigh Grange Farm, and Mr. A. McCallum, of Spruce Hill Dairy Farm, have decided to hold a joint sale on Mr. Greenshields' farm (which comprises over 800 acres) in September (date to be announced later), when they will offer an immense stock of purebred Shropshire and Guernsey cattle, Shropshire sheep, and Yorkshire swine, of all ages and both sexes. It will be a grand opportunity for breeders to secure first-class animals of the above breeds at their own prices. The stock contains no culls. It is proposed to make the sale an annual event, and to conduct it in such a manner as to merit the fullest confidence and support. The date has not yet been decided on, but will be fixed either before or immediately following the Montreal Exposition. Catalogues containing full particulars of stock will be ready about end of July, and copies will be sent free to any one applying to

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EXPORT TRADE TO SCOTLAND.

GLASGOW, as a centre for the disposal of American and Canadian horses, has proved by far the best market in Britain during the past season, and it is likely to continue so, as from its central position it commands buyers from all parts of Scotland and England.

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**Canadian and States Cattle and Sheep.**

Macdonald, Fraser & Co., Limited, also handle carefully, and have done so for many years past, large numbers of Canadian and States cattle and sheep.

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A specialty made of breeding purebred Yorkshires of the most desirable type. A large herd of different ages on hand. Prices moderate, and quality of stock guaranteed to be as described.

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I have on hand the best young Clydesdale Horses and Mares on this continent. Bred from the well-known sires, Prince of Wales, Darnley, Macgregor, Energy, Lord Montrose, The Ruler, Carruchan Stamp, Knight Errant, and other celebrities.



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Orders can now be booked for Shearing Rams, Ram Lambs and Ewes, sired by the celebrated prize-winning English ram, Bar None. Also rams and ewes of this year's importation.

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Choice young Heifers and Bulls by the celebrated Cruickshank bulls, Northern Light and Vice-Consul.

My stock in the above lines were very successful at all the large shows last year. Call and examine stock before purchasing elsewhere. Terms reasonable.

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RECORD FOR 1893  
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37 FIRST II SECOND  
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Dorset Horn and Shropshire Sheep

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BREEDERS OF

**Shorthorn Cattle and Trotting Bred Horses**



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The Most Celebrated Stud of **GLYDESDALES AND HACKNEYS** in Canada... is owned by

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filled with care. Send for 1895 catalogue "No Business, No Harm," is our motto.

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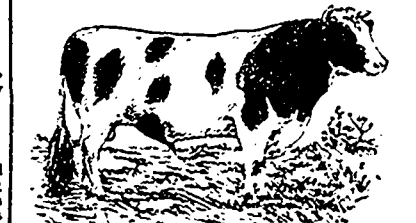
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Twice Winner Over all Breeds.  
**200 OXFORD DOWN SHEEP**

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Have you read "Dairying for Profit," by Mrs. E. M. Jones, Judge of Butter at World's Fair, Chicago? If not, you miss a treat, which would save you hundreds of dollars. Only 50c. by mail. **ROBT. BROWN, Agent, Box 384, Brockville, Ont., Can.**



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**MRS. E. M. JONES, Brockville, Ont., Can.**

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**H. J. HILL, Manager.**

THE  
**Canadian Live Stock and Farm Journal**

Devoted to the Interests of the Stock-Raisers and Farmers of Canada.

Vol. XII. No. 7.]

TORONTO, JULY, 1895.

[WHOLE No. 140



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## THE CANADIAN Live Stock and Farm Journal

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A monthly illustrated magazine, devoted to the ladies and young people of the household.  
Furnished to subscribers to THE CANADIAN LIVE STOCK AND FARM JOURNAL as a free supplement.  
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### Death of Mr. Amos Cruickshank.

Shorthorn breeders everywhere will learn with regret of the death, at the ripe old age of eighty-seven years, of Mr. Amos Cruickshank, of Sittyton, Aberdeenshire, Scotland. The late Mr. Cruickshank was born within five miles of the farm on which he, for fifty-two years, carried on successfully the business of breeding Shorthorns. In 1837, he and his brother Anthony first started farming. They soon saw the necessity for improvement in cattle, and, therefore, rented the farm of Sittyton and other lands until about 1,000 acres were under the supervision of Mr. Amos Cruickshank. Shorthorns were the breed selected for his operations, the foundation for the herd having been obtained in England and from the best herds in Scotland. The scale on which breeding was conducted may be inferred from the fact that the annual crop of calves numbered 120. Annual sales of young bulls were held, which were much appreciated by local breeders. From 1870 on large numbers of Cruickshank cattle found their way into Canada and the United States, their great merits bringing them to the front.

In 1889, Mr. Cruickshank sold out his entire herd to Messrs. Nelson, of Liverpool, the intention of these gentlemen having been to export them to Argentina. Owing, however, to the enterprise of Mr. Duthie, of Collynie, and Mr. Deane Willis, of Bapton

Manor, who purchased the best of the stock, the cattle were saved for Great Britain.

The deceased was a man of a quiet and homely disposition, and led a simple life, being one of the Member of Friends. His name will last as long as Shorthorns are known in the world.

### To Importers of Draught Horses.

The coming boom in draught horses, that has even now begun to show itself, will be certain to cause a revival of importations of sires, and probably of a number of mares, from the old country. It will, therefore, be in season to give importers a word of advice. During the height of the importations a few years ago, importers did not exercise sufficient care in the selection of stallion animals. Anything would do, provided it had a pedigree and was cheap enough. The magic prefix of *imported* attached to a stallion's name was deemed sufficient, and, in fact, did prove sufficient, to cover up all deficiencies for a time. By and by, though, the day of reckoning came, and when those who bred their mares to such sires found that the stock from them were such as no one wanted at any price, the revulsion in feeling went a long way towards killing the heavy horse trade.

That trade is once more on a letter basis. Let us try and keep it so. Let us see that nothing is imported to this country but what is calculated to improve, and not to damage, horse breeding. The breeding of horses must be conducted on business lines, the same as other undertakings. If our importers will keep this in view, they will do the country and themselves a great service.

### Loading Cars of Stock in Hot Weather.

A great many animals die every summer in the cars on their way to the various places where they are to be sold. This mortality is not infrequently caused by the greed of the drover, who, in order to save freight charges, overloads the car by crowding into it more animals than it can properly accommodate. Oftentimes, however, the farmer who has sold the stock to the shipper is to blame. He drives the animals on the hoof to the station, and, as he is pretty busy about this time, hurries them on, in order that he may get back sooner to his work. In consequence of this, the stock, which are generally full of feed and water, arrive at the station in an overheated and exhausted condition, and, not having time to rest and get cooled off, suffer dreadfully while standing in the hot cars. During the hot spell that we had in the early part of May several animals died in the cars before reaching Toronto, solely from this over-driving.

Now, it is to the interest of the farmer to land his stock at the station in as fresh a condition as possible. If he does not do so the shipper will not be likely to patronize him again, or, if he does, he will be very apt to quote him a low price on his stock. The other dealers, too, will soon get to know of it, and the farmer will find himself, as in a manner, boycotted.

The most convenient way of conveying stock to the market or to the station, if only two or three animals are to be taken, is in waggons fitted with high sides. When you have your animals in and secured firmly, there is no further trouble, unless the animal is cross or timid.

All the running up side roads and into other men's yards in pursuit of your stock where gates have been left open, is avoided in this manner, and your stock arrive in good shape at their destination. Buyers will consider this in the price of the stock when they next come to you. If any of our readers have not tried this method of taking one or more animals to market let them do so now and they will be convinced of its advantages.

### Keep the Lambs Growing.

The lambs should not be neglected during the summer season, even if haying and harvesting do call for most of our attention during that period. If we want to push our lambs along, it will pay us to feed them a little grain every day. At first, they may be fed along with the ewes, if they do not seem inclined to eat the grain; but once they have taken to it, they can be fed alone.

In order to keep lambs growing, both they and their dams should be kept on good pasture, and they should be changed from one field to another from time to time. By good pasture we do not mean tall, luxuriant grass, for sheep do not care for it. A short, thick pasture is what they prefer and do best on.

Remember to keep a lump of rock salt always in the pastures for the sheep. Sheep will take salt regularly, and are the better for it. We have found rock salt far better and cheaper than common salt in the pastures, as it will not waste and the sheep cannot take too much of it at a time.

Another important requisite is good, clean water. Foul water from a slough is the cause of many diseases in sheep, and they should not be put in a field where that is the only water of which they can avail themselves.

We are not sure whether it would not be better to put sheep into fields without water than to put them where their only drink is foul water. Both practices are decidedly wrong. Sheep must have water, and they should have access to the purest water only.

### Swine Topics.

There has been a change lately in a downward direction in the price of hogs, but this is due to warm weather and an increased supply coming forward at one time. We believe that pork will hold its own for some time yet, and that pigs will be a good paying property for farmers to handle. Swine do, indeed, reproduce their species faster than other domestic animals, but nature always seems ready with some expedient in the shape of disease, or in some other way, to prevent their becoming too numerous on the earth. It was thought by a great many people that, owing to the great number of farmers who have gone into the breeding of pigs during the last couple of years, pigs would have been a drug in the market about this time, but such has not been the case. It is not likely that they ever will be a drug. We have never yet seen them so low in price that the intelligent feeder could not make some money out of them, even if it were not much.

Last winter was a severe one on swine, owing to the long, protracted cold weather. From all over the country came reports of swine crippled by rheumatism, brought on either by their sleeping in cold quarters, or through lack of exercise in consequence of the severe weather confining them to their pens for so long a period. Nor did the trouble stop here. The rheumatic symptoms seem to have affected, among others, not only such

sows as were carrying their young, but also the young pigs themselves, and, among the early litters of this year, hundreds of young pigs died. They seemed to be all right at birth, but gradually sickened and died. Later litters, however, were, as a rule, all right, and have done well. These rheumatic symptoms were, strange to say, not confined to pigs in cold, draughty, and wet pens, but were to be found even in the best modelled piggens in the country, and must, therefore, be ascribed to the very continued cold weather of last winter. Such a state of affairs is not likely to occur often, and need not alarm breeders. Should next winter prove a severe one, much can be done, by regulating the food, to prevent rheumatism. Should symptoms of it appear, it will be best to stop feeding all grain foods of a heating nature, and to use shorts and bran for a time. Saltpetre and sulphur in the food are also good, but care must be taken not to give too much of these to sows in pig.

### Canadian Horses in Great Britain.

Canadian exporters are doing a good trade in horses shipped to Great Britain, and it is certain that the shipments this year will largely exceed those of 1894. In fact, the only bar to a great augmentation of the trade is that we have not, in this country, enough of the best kinds of horses, such as are always in demand over there at remunerative figures. Commenting on some of the horses sent from here and the United States, a London dealer says: "There is no sale for leggy, narrow horses. As these are often fast, they are worth as much in America as here, where pace is not so much sought after as strength, and a short-striding horse is better adapted to London panning than the other class. Horses sent must all be quiet in harness and sound, with as much weight as can be got, and on short legs." Another dealer writes: "Sizable carriage horses, 15.2 to 16 hands high, suitable for private buyers and our London job masters, realize from \$200 to \$500, according to size and quality. The stronger class, called 'machiners,' here used in our omnibuses, trams, and van work, fetch from \$150 to \$250. The age should be from five to six years. They must be quiet in harness, or to ride, as the case may be, and without any brand marks."

It will thus be seen that what the British market calls for in carriage horses are matured horses with plenty of size, but not too long in the leg. Speed is not so material over there as here, and a horse with fine, strong action, provided he has the requisite conformation and quality, will be selected, in nine cases out of ten, in preference to one having more speed but less action.

Weight is also required over there in horses for lorries and heavy teaming. Big prices will be paid for horses weighing from sixteen hundredweight to twenty hundredweight. Most of the draught horses shipped from this country are only suitable for vans and omnibus work, and the prices paid for such are small in comparison with those given for horses for lorry purposes.

In breeding for the British market, then, farmers should bear these facts in mind. Don't breed a mare to a stallion simply because she is a mare and you want to raise a colt out of something. Breed only your best, and have a definite object in view. If you have not got a mare good enough for the purpose required (whatever that purpose may be), it is far better not to breed her than to

raise a colt that you cannot dispose of, or, if you do manage to find some one to take her off your hands, that will cost you far more than you will get for it.

### Don't Sell Good Breeding Stock for Meat.

The outlook for live stock is encouraging, and more especially for animals of the meat-making classes. For a long time these branches of the live-stock industry have languished, but now they promise to flourish like the green bay tree. Men are waking up to the fact that, notwithstanding the importance of dairying, other kinds of stock are wanted, and it will pay to keep them. It is important, therefore, in view of the good demand for meat-producing animals at the present time, and of the probable continuance of the same, that every one who has good breeding females, young or old, should be careful of the disposal which he makes of them.

Of course, there is a class of animals from which we should never breed. When meat is low, such animals are not likely to be retained for breeding. The danger that they shall be so kept only exists when meat is dear, hence, when we urge our farmers to be careful not to hastily dispose of good breeding stocks at the present time, we have no reference to inferior animals. At no time should they be spared to breed from.

The temptation is very strong to sell good animals when meat is dear. The butcher does not want the inferior so much as he wants the good, and it is the good animals which he wishes to buy. It is for these that the tempting offer is made, and it is to withstand the pressure which he brings to get such animals that the farmer should be ready with a resolute No. If the best are sold at any time, improvement is impossible; therefore, except when the very strongest reasons are offered for the step, the best should not be sold.

There has been a strong tendency during recent years to cut down the size of the flocks of sheep on the part of many breeders, and naturally so. It is always so when prices fall. But sheep are likely to improve. They are almost certain to improve. Particular care should be exercised, therefore, with reference to the disposal of ewe lambs. In the near future this class of stock should bring fair prices, so far as we can judge by present indications.

It is somewhat surprising how high and low prices for different kinds of stock work, as it were, in cycles. For a number of years one line of produce will be low, and there is no accounting for the fact. It will then quite suddenly take a spurt upward when people are least expecting it, and the reasons will not be any more apparent for the sudden rise in price than for the sudden fall. A year ago no one had the courage to predict that beef would rise so quickly, but it has risen, and, judging by the present indications, it will continue up for some time. It may be that these changes are the outcome of decreased production caused by the continuance of low prices for a time. If so, the prices for beef are likely to continue good for some time to come, as the supply of beef cannot be increased in one year as can the supply of some other products.

The mistake should be shunned by purchasers of investing in animals of inferior development because the prices which rule for the best of that particular class of stock are high. The danger here is always considerable. When

meat sells low many people will not invest in meat-producing sires at all, but when meat is dear they will have sires, even though they have to take poor ones.

Such a desire, however, should not be pandered to by the breeders of purebred stock. It can only react against their business in the end. They should not sell such animals to any save to those who will turn them into meat. The meat-making interests have suffered immensely in this way in the past; hence, when we advise farmers to be careful, in view of the brightening future, as to the disposal which they shall make of their breeding stocks, we also urge upon them to retain no animals for breeding not up to a certain standard.

### Brood Sows While Nursing Their Young.

The care given to sows between farrowing time and the weaning period will determine very largely the measure of success that will attend the rearing of the pigs, until they are ready for being put upon the market. If they are stunted at that period they are never likely to develop so well as they would if growth were continuous from the first. Such stagnation may arise from various causes. It may arise from indigestion in the sow, which will, of course, affect adversely the quality of the milk, and, in consequence, indigestion will extend to the young pigs. Or, it may arise from unsuitable or scant food supplies. The aim should be, therefore, to avoid everything in the food and management that would hinder continuous and vigorous development during the period when the pigs are being nursed.

When the farrowing is over, there should be no undue haste in giving nourishment to the sow. When given it should be in the form of a warm drink, with a handful or two of shorts in it. The sow may be allowed to drink freely of this, and it may be well to remain in the pen until she lies down again, lest some of the litter should be overlaid. Nor should she be disturbed with this kind of food oftener than three times a day.

If the sow is fed too freely at such a time the milk-giving functions will be over-stimulated; hence an inflamed udder is likely to follow.

This will, of course, arrest milk production, and may prove fatal to the young pigs, and also to the sow. When her udder becomes inflamed, it will also be caked and hard. The best thing probably that can be done under these circumstances will be to give the sow some physic. Epsom salts will answer for this purpose, and about four to six ounces may be given at a dose. Her udder should be bathed in water, quite warm, for probably half an hour, and then some soothing liquid may be applied to it, as, for instance, sweet oil.

The same kind of food may be given the dam for the first week after farrowing, only she should get more and more of the shorts. When the pigs are about a week old she will require to be fed freely, and the food must be increased with the increasing age of the pigs. Enough should be given to prevent the sow from losing flesh. The food may consist of a variety, but care must be taken to introduce a new food factor cautiously, for any sudden change of diet is pretty certain to derange the digestion of the young pigs. Shorts and bran and cornmeal, in about equal parts, will answer very well. Shorts and oats also are good for milk production, and a little peameal may be added to sustain the flesh of the sow.

Two ways are adopted in getting the young pigs to eat. By the first method they are given a little skim-milk in a low trough where the sow can not get at it. This should be given to them at a temperature as warm as the milk that they get from the dam. As soon as they have learned to take a little of this, some shorts may be added to the milk. But this, of course, cannot be done where skim-milk cannot be had, as is frequently the case in farm houses. It is wanted for other uses, as, for instance, for calf rearing.

By the second method the food is given to the sow in a low trough, so low that the pigs may come and eat at the same time. They will soon learn to do this. The same kind of food that is given to the sow will also be found good for the pigs. When they are thus taught to eat by either of those methods, the drain is not so heavy on the sow; hence she is more easily sustained in flesh. The pigs also learn to eat a varied diet, so that, when weaning time comes, it affects them so slightly that they are little the worse for the change in diet that is then made through the withholding of the milk of the dam.

When the sows can get to pasture they may be allowed out on fine days in early spring, but the pigs should be kept in until they are, probably, three weeks old. The sows will not remain out long at a time, but will return to the pigs. But after the pigs reach the age mentioned they may be allowed to go to the pastures with the dams, and stay with them on these when the weather is fine. Of course, the sow must be liberally fed, even though the pigs are out on the pastures. They will come to the pens for their feed at the accustomed times of giving the same. Where the sows cannot be allowed out at pasture, they should have some green food, as turnips, mangels, or sugar beets, if these can be had.

The age at which to wean will depend upon the number of litters raised each year. When but one litter is reared, the pigs may suck the dam until near three months old. But when two litters are reared, they would have to be weaned rather under than over the age of two months.

### Our Live Stock Records.

As most breeders are aware, the new Agriculture and Arts Act, passed at the last session of the Ontario Legislature, provides for the abolition of the Agriculture and Arts Association at the end of this year, and vests in the members of each breeders' association control over the record books of their respective breeds, should they desire to exercise that control.

A good deal of discussion has been indulged in, and several letters have appeared in papers that look after farmers' interests, concerning the best way of conducting these records when they are transferred. There has been, and still is, a feeling among breeders that the fees in the past for recording have been excessive in some cases, and it has been computed that a considerable saving could be effected in that direction without impairing the usefulness of the records. This point demands the serious attention of those concerned.

It will be well here, perhaps, to give the position which the Department of Agriculture, under the Hon. John Dryden, as taking the place of the Agriculture and Arts Association, will occupy towards the live stock associations. As we understand it, any association which feels strong enough to do for itself can, if it wishes, take full control over its records independently of the department. Such, how-

ever (and they are in the majority), as cannot get along alone, will be conducted by the Department of Agriculture as part of that department. Mr. Dryden leaves it to the associations to say what they can afford to pay for recording and for printing their records, and will see that the work is properly done on those terms. Of course, the terms proposed must be fair and reasonable for the work done. This offer, it seems to us, is eminently fair and generous, and Mr. Dryden can be depended on to see that the associations get their money's worth. The various associations have already been requested to send delegates to confer with him on the subject.

The American Shropshire Record has been suggested as a successful model record which has done good work. Mr. Mortimer Levering, the secretary, receives thirty-five cents per pedigree accepted, and fifteen cents for each transfer. In return for this he pays his assistant, maintains his office, and lights and heats it, the association, however, paying for stationery. The society had last December about \$7,000 in the bank, together with a large number of stock books on hand. One dollar is charged for registering imported sheep, and fifty cents for American-bred animals, non members paying double rates. A share in the stock costs \$5, and members get one volume free.

An arrangement on these lines would, we think, be satisfactory to the breeders, and would ensure the work being done in a proper manner at the lowest possible cost.

The coming change in the control of the records has also brought to the fore the proposition that an international record association for the various breeds of live stock be established. As is well known, American associations will not accept our records at the present time, although the standards of these records are, many of them, higher, and all quite as high as any of the American ones.

Representations have been made to the Treasury Department at Washington by the Dominion Government in order to get our records accepted at the customs houses, when animals are being shipped from here to the other side, but all to no avail, nor is there any immediate likelihood of any change being made. The present order of things is thus a hardship on the Canadian breeder, who has sometimes to register his stock in the record books of both countries. It is this state of things that is causing the idea of international records to be advocated in some quarters, such records to be supported by the various live stock associations in the various provinces and states, and to be the official records for such associations.

What guarantee have we, however, that any of the American associations would enter into any such arrangement as proposed? They would willingly welcome our breeders over bag and baggage to join their existing societies, but would they go further? And if they declined to recognize the proposed international associations and kept on their own way, things would be no better than they are now. Supposing, however, the proposed international association did get started and several states joined it, would the delegates from Canada be numerous enough to carry the point when questions affecting their interests came up for discussion? These and other points must be well considered by our breeders, and we venture to think that they will not entertain any such ideas. In the meantime, they will do well to consider the proposal made by the Ontario Department of Agriculture, which is an exceedingly fair one, in our opinion.

### The Philadelphia Horse Show.

The fourth open air exhibition of the Philadelphia Horse Show Association was held at the new grounds at Wisshickon Heights from May 28th, to June 1st. The attendance was very good in spite of the intense heat.

The Hackney classes were, as usual, the most important. Here the ribbons were tied by Messrs. R. P. Stericker and Alex. Galbraith. The only Canadian exhibitor was Mr. H. N. Crossley, Rosseau, who showed Rosseau Performer, Rosseau Fireball, Althorpe Duchess, and Althorpe Countess.

The veteran Cadet, Mr. Cassatt's well-known horse, headed the aged class for stallions 15.2 and over. Next to him was placed that popular winner, Ottawa, which was purchased from Messrs. Beith, Bowmanville, at the time of the Canadian spring show, by Mr. F. C. Stevens, Attica. He was put through his paces by his old-time trainer, John Wiley, whom Mr. Stevens has engaged in his stud. Third place went to Mr. Bloodgood's General II. Ottawa seemed to be the favorite for first place, as his action was much admired, but Cadet's substance and conformation carried the day with the judges. The next class, for aged stallions 15 and under 15.2 hands, contained the newly-imported 15-year-old roan Wildfire, the sire of Bonfire and other famous Hackneys, which secured second, Althorpe Performer being placed above him. In the class for stallions from 14 to 15 hands Mr. Cassatt's Little Wonder had to take second position, first going to Mr. Fairfax's Northern Light.

Yearling stallions were headed by two Lord Bardolph colts, Lord Rattler, and Lord Lynnewood, which took first and second respectively. Mr. Crossley's Rosseau Fireball was a favorite, but did not show off well after his long journey.

Hackney's mares with foals at foot were a good class. Mr. Twombly's Sweetbriar and Ivy here proved their superiority by winning first and second. Mr. Widener's Lady Preston came next, and Winnifred, Mr. Stevens' other purchase from Messrs. Beith, fourth. A brown foal from her by Jubilee Chief was also first in the foal class.

In the three-year-old filly class Mr. Crossley's Althorpe Duchess and Althorpe Countess were winners, first place, however, going to Mr. Cassatt's Lyric. Lady Lynnewood, a Lord Bardolph filly, won third for yearling fillies.

The prize for stallion and three of his get went to Wildfire, Cadet taking second. The get of the latter, however, were very young and compared disadvantageously. Little Wonder came third. Wildfire won the veteran cup for aged stallions, Cadet not being able to compete in that class.

### English Standard for Improved Large Yorkshires.

The standard of excellence for Improved Large Yorkshires, or Large Whites, as they are called in England, as given in volume eleven of the English herdbook, is as follows:

**Color.** White, free from black hairs, and, as far as possible, from blue spots on the skin.

**Head.** Moderately long, face slightly dished, snout broad, not too much turned up, jowl not too heavy, wide between ears.

**Ears.** Long, thin, slightly inclined forward, and fringed with fine hair.

**Neck.** Long, and proportionately full to the shoulders.

**Chest.** Wide and deep.

**Shoulders.** Level across the top, not too wide, free from coarseness.

**Legs.** Straight and well set, level with the outside of the body, with flat bone.

**Pasterns.** Short and springy.

**Feet.** Strong, even, and wide.

**Back.** Long, level, and wide from neck to rump.

**Loin.** Broad.

**Tail.** Set high, stout and long, but not coarse, with tassel of fine hair.

**Sides.** Deep.

**Ribs.** Well sprung.

**Belly.** Full, but not flabby, with straight under line.

**Flank.** Thick, and well let down.

**Quarters.** Long and wide.

**Hams.** Broad, full, and deep to hocks.

**Coat.** Long and moderately fine.

**Action.** Firm and free.

**Skin.** Not too thick, quite free from wrinkles.

**Note.** Large-bred pigs do not fully develop their points until some months old, the pig at five months often proving at a year or fifteen months a much better animal than could be anticipated at the earlier age, and *vice versa*; but size and quality are most important.

**Objections.** Black hairs, black spots, a curly coat, a coarse mane, short snout, inbred knees, hollowness at back of shoulders.

### Dominion Sheep and Swine Breeders' Meeting.

These associations held a joint meeting on May 23rd in London, a large number of members being present. Mr. J. I. Hobson, Mosboro, took the chair.

The secretary having called attention to some mistakes in the names of the expert judges of sheep and swine, it was moved and carried that Mr. C. Simmons be added as judge of Berkshires. Mr. Edmund Weld, solicitor for Messrs. George & Sons, Crampton, appeared before the meeting and asked that they be granted a part of the prize money that was withheld from them at the last Guelph Fat Stock Show. After a good deal of discussion, several of the members considering the matter as being out of order, Mr. Gisson moved that it be referred back to the joint committee, before whom the matter had been brought at the Fat Stock Show. This was carried.

The secretary reminded the meeting that there was a clause in the new Agriculture and Arts Act giving the Sheep and Swine Breeders' Associations the privilege of electing a member of the Ontario Agricultural College staff to each board. At his suggestion a clause was embodied in the by-laws to that effect, and Prof. Day was appointed as director from the college.

The question of the Fat Stock Show was then brought up, and it was resolved to amalgamate with the Agriculture and Arts Association and the Guelph Fat Stock Club for the purpose of holding the show at the latter place. The following judges were selected for the Fat Stock Show:

**Long-woolled sheep.**—W. Thompson, Uxbridge, and Alex. Smith, Maple Lodge; referee, R. W. Stevens, Lambeth.

**Short and medium-woolled sheep.**—J. Miller Markham, and H. Arkell, Teeswater. Referee for short-woolled sheep, R. Miller, Brougham.

**Poland Chinas, Chester Whites, Tamworths, and Duroc-Jerseys.**—Joseph Featherston, M.P., Streetsville, and J. E. Brethour, Burord; referee, James Anderson, Guelph.

**Other breeds.**—T. Teasdale, Concord, and James Main, Milton; referee, A. Elliott, Galt.

Committee to act with Agriculture and Arts Association and Guelph Fat Stock Club: J. Jackson, James Tolton, G. Hood, and R. H. Harding.

Programme Committee—J. Jackson, J. C. Snell, J. E. Brethour, and R. Gibson.

Prof. Day spoke on the proposed experiments in sheep and swine feeding at the Ontario Agricultural College, as suggested in the last annual report of the Sheep and Swine Breeders' Associations. The college was willing to undertake these experiments if the breeders present so desired. A long discussion then took place, some present favoring the idea, but eventually the matter was laid over. A letter from the Wm. Davies Co. (Ltd.) was read, urging farmers to breed long, lean pigs.

The following were appointed a committee to meet Hon. John Dryden with reference to securing control of the records of the associations now held by the Agriculture and Arts Association: J. Featherston, M.P., J. C. Snell, J. E. Brethour, R. H. Harding, J. I. Hobson, and C. M. Simmons.

The report of the committees appointed to draft model rules and prize lists for different exhibitions was received and taken up clause by clause. As finally passed they are as follows:

#### SHEEP—RULES FOR LARGE EXHIBITIONS.

(1) All sheep competing in the purebred classes must be recorded in their respective flock books and bear the record label at the time of exhibition.

(2) In making entries, the owner's name and address in full and the age and record numbers of the animals must be given, and they shall be the *bona fide* property of the exhibitor for, at least, twenty days previous to the exhibition.

(3) Judges shall be provided with a standard of excellence for the respective breeds, and be guided thereby in making awards.

(4) The awarding committee shall consist of two judges for each breed, with power to call in a referee in case they cannot decide.

(5) No person shall be allowed to interfere with the judges while in the discharge of their duties; exhibitors so doing shall forfeit any premium or premiums to which they may otherwise be entitled, or which they have been awarded.

(6) That no person be allowed to judge a breed of sheep with which he is not thoroughly acquainted. An exhibitor shall be allowed to protest against one not so qualified before the judge enters upon the discharge of his duties.

#### PRIZE LIST.

- (1) Ram, two shears and over.
- (2) Shearling ram.
- (3) Ram lamb.
- (4) Pair of ewes, two shears and over.
- (5) Pair of shearing ewes.
- (6) Pair of ewe lambs.
- (7) Pen of sheep, to consist of one ram, one year or over; four ewes, one year or over; and two ewe lambs.
- (8) Ram, any age.
- (9) Ewe, any age.
- (10) Three ram lambs, bred by exhibitor.
- (11) Three shearling ewes, bred by exhibitor.
- (12) Three ewe lambs, bred by exhibitor.

#### RULES FOR COUNTY FAIRS.

(1) Every animal must be the *bona fide* property of the person in whose name it is entered at the time of exhibition.

(2) No prize shall be awarded unless the judges consider there is decided merit.

(3) Awarding committee to consist of two judges for each breed, with power to call in a referee in case they cannot decide.

(4) Great care shall be taken in selecting judges who thoroughly understand the respective breeds.

(5) No person shall be allowed to interfere with the judges while in the discharge of their duties. Any objection to a judge shall be made in writing before he commences the discharge of his duties.

(6) All sheep competing in the purebred classes must be recorded in their respective flock books and bear the record label at the time of exhibition.

#### PRIZE LIST FOR COUNTY FAIRS.

- (1) Ram, two shears and over.
- (2) Shearling ram.
- (3) Ram lamb.
- (4) Pair of ewes, two shears and over.
- (5) Pair of shearing ewes.
- (6) Pair of ewe lambs.
- (7) Pen of sheep, to consist of one ram, one year or over; four ewes, one year or over; and two ewe lambs.
- (8) Three ram lambs, bred by exhibitor.
- (9) Three ewe lambs, bred by exhibitor.

#### TOWNSHIP SHOWS, RULES.

(1) Every animal must be the property of the person in whose name it is entered.

(2) No prize to be awarded unless the judges consider there is decided merit.

(3) Awarding committee to consist of two judges.

(4) Care should be taken, in the selection of judges, that men be appointed who are thoroughly conversant with the merits of each of the different breeds.

(5) Ewes two years and over must have produced lambs during the current year.

#### TOWNSHIP SHOWS, PRIZE LIST.

- (1) Ram, two shears and over.
- (2) Shearling rams.
- (3) Ram lamb.
- (4) Ewe, two years or over.
- (5) Shearling ewe.
- (6) Ewe lamb.
- (7) Pen of sheep, to consist of one ram, two ewes one year or over, and two ewe lambs.

#### SWINE—RULES FOR LARGE EXHIBITIONS.

(1) The owner's name and address in full, with exact date of birth of animals, shall be given when making entries.

(2) The name and record number of each animal shall accompany the entries.

(3) If required, the exhibitors shall make a statutory declaration that their animals are of the ages stated by them, and are their *bona fide* property.

(4) No animal shall be allowed to compete in any section not corresponding with its age.

(5) The ages of pigs to be calculated from September 1st.

(6) No animal may compete in more than one section, except for pen prizes or specials.

(7) Directors are expected to enforce the foregoing rules.

#### CLASSIFICATION OF SWINE AT LARGE SHOWS.

- (1) Boar, two years and over.
- (2) Boar, over one and under two years.
- (3) Boar, over six months and under twelve.
- (4) Boar, under six months.
- (5) Sow, two years and over.
- (6) Sow, over one year and under two.
- (7) Sow, over six months and under twelve.

(8) Sow, under six months.

(9) Herd, boar and three sows, any age.

(10) Herd, boar and four of his get, under six months old, produce owned and bred by exhibitor; sow and four of her produce, under six months old, produce owned and bred by exhibitor.

#### RULES FOR COUNTY AND TOWNSHIP SHOWS.

(1) The owner's name and address in full and exact age of animal shall be given when making entries.

(2) The age of pigs shall be calculated from September 1st.

(3) No animal shall be allowed to compete in any section different from its age.

(4) If so required, the exhibitor shall make a statutory declaration that his animals are of the ages stated.

(5) No animal shall be allowed to compete in more than one section, except in cases of specials or herd prizes.

(6) All purebred swine, for which there is a Canadian record, shall be registered before being allowed to compete.

(7) Sows over one year old must have raised pigs the present year or show satisfactory evidence of being with pig.

#### CLASSIFICATION OF SWINE FOR COUNTY OR TOWNSHIP SHOWS.

(1) Boar, one year old and over.

(2) Boar, over six months and under twelve.

(3) Boar, under six months.

(4) Breeding sow, one year and over.

(5) Sow, over six months and under twelve.

(6) Sow, under six months.

(7) Herd, boar and two sows any age.

Some changes were also made in the rules for the next Fat Stock Show.

Mr. J. S. Pearce, London, spoke on the question of the Western Dairyman's Association giving a grant for holding some kind of a dairy show in connection with the Fat Stock Show, and thought that the association would make a grant for that purpose. The meeting then adjourned.

#### The Ontario Provincial Fat Stock Club.

The Ontario Provincial Fat Stock Club was organized in the city of Guelph on June 15th. The Agriculture and Arts Association was represented by seven delegates—J. Sissons, Barrie; D. P. McKinnon, South Finch; J. C. Snell, Edmonton; R. McEwen, Byron; A. Rawlings, Forest; Henry Wade, Toronto; William Dawson, Vittoria; the Sheep and Swine Breeders' Associations by R. H. Harding, Thorndale; G. B. Hood, Guelph; J. Jackson, Abingdon; James Tolton, Walkerton; F. W. Hodson, Guelph; Guelph Fat Stock Club by John I. Hobson, Mosboro; James Miller, Guelph; John McCorkindale, Guelph; James Anderson, Guelph. Mr. John Sissons, Barrie, was appointed president; Mr. John I. Hobson, vice-president; and Mr. Henry Wade, Toronto, secretary.

The agreement of last year was again accepted, with the exception that the Guelph Fat Stock Club are now allowed to retain the membership fees of their association. Members of this society will this year be admitted at the gates without paying an additional fee for their admission ticket.

Rules governing the exhibition are the same as last year, with the following exceptions:

Section 4, line 2, of General Rules and Regulations is amended to read, "The age, record, name, and number," etc. Clause 8 of General Rules and Regulations is expunged. Clause 10 provides that the exhibition shall be

held December 10th, 11th, and 12th, 1895. Admission will be charged until 6 p. m. of the 12th. An additional rule was added, which reads, "Ages of all animals to be computed to the first of December, 1895."

*Animals.*—Clause No. 1 amended to read, "No animal shall be removed until the close of the exhibition." Clause No. 2 was amended to read, "Tuesday, December 10th."

*Awarding Committees.*—Clause 1 amended to read, "Awarding committee shall consist of two judges and a referee." Clause No. 2 now reads, "Awarding committee shall commence examination at 10.30 a. m., December 11th, and continue until awards are completed."

Clause 9, third line, is amended to read, "They shall report the fact at once to the secretary, who shall report same to directors, who may expel said exhibitor for fraud at least two years, and may withhold all or any prizes won by said exhibitor."

Extra special premium for best wether sired by registered Shropshire rams and out of grade ewes:

Two years old and over, first premium, \$10; second premium, \$6. One year old and under two, first premium, \$10; second, \$6. Under one year, first premium, \$10; second, \$6.

Otherwise the sheep prizes remain as last year, with the exception of the prizes previously given by the American Southdown Association, which are withdrawn. Cooper & Nephews' cup will again be offered on the same terms as last year.

Class 12, section 2, is amended to read, "Best barrow under nine months. Section 4, "Best sow under nine months."

Classes 13, 14, 16, and 17, are amended in like manner.

Class 16 was divided, allowing Tamworths \$90 in prizes and Jersey Reds \$50. Classification to be arranged by Secretary Wade.

the said club, and report whether this exhibit be one of dairy products or of dairy cattle.

The following committees were appointed: Executive: Messrs. Wade, Hodson, Hobson, Miller, Snell, and the president. Superintendent: Mr. Herbert Wright, Guelph, Ont.

Committee on Cattle: A. Rawlings, John I. Hobson, John Miller, J. Sissons, W. McCorkindale, D. P. McKinnon, and N. Awrey.

Committee on Sheep: J. Jackson, Prof. G. E. Day, J. C. Snell, Jas. Tolton, R. McEwen, Jas. Rowand, M. P.

Committee on Swine: G. B. Hood, R. H. Harding, Wm. Dawson, Jas. Anderson, D. P. McKinnon.

Committee on Poultry: James Anderson, Prof. G. E. Day, Wm. Dawson.

Programme Committee: Messrs. Miller, McCorkindale, Sissons, Wade, John Jackson, J. C. Snell, Jos. Brethour, R. Gibson, and F. W. Hodson.

Sheep judges: Wm. Thompson, Uxbridge; Alex. Smith, Maple Lodge; with R. W. Stevens, Lambeth, as referee, for classes 8 and 11.

John Miller, Markham; Henry Arkell, Teeswater; with W. S. Hawkshaw, Glanworth, as referee, for classes 9 and 10.

Swine judges: Classes 13, 15, and 16, Jos. Featherston, M. P., Streetsville, Ont.; Jos. Brethour, Burford, Ont.; with James Anderson, Guelph, as referee.

Classes 12, 14, 17, 18, and 19, Thos. Teasdale, Concord; James Mann, Milton; with Andrew Elliott, Galt, as referee.

Cattle judges: Grade cattle—John Scott, Galt; Wm. Stark, Berwick; Geo. Morris, London, referee.

Purebred: Thos. Russell, Exeter; Alderman Dunn, Toronto; with T. E. Robson, Helderston, Ont., as referee.

Poultry judge: Geo. Murton, Guelph, Ont.

It was moved that the cattle judges award the sweepstakes prizes in the cattle department.

Prof. Geo. E. Day was elected a director to represent the Ontario Agricultural College.

Moved by Mr. Jackson, seconded by Mr. John I. Hobson, That date of entry be limited to November 25th, and that entry fees after that date be doubled.

Secretary Wade read a letter from H. D. Smith, Compton, Que., in which the writer offered a prize of fifty dollars, provided the sweepstakes prize for best animal is taken by a registered Hereford.

#### A Popular Minister of Agriculture.

The description of the Agricultural College, Guelph, which appears in this issue, would hardly be complete without some reference to the Hon. John Dryden, Minister of Agriculture for Ontario, for it is greatly owing to his perception of the requirements of the college, and his readiness to do all in his power to assist its usefulness, that it stands in the position that it occupies to-day.

Mr. Dryden was born in the township of Whitby, Ontario county, June 5th, 1840. His father came to this country from Durham county, England, in 1820, when only fourteen years old, in company with his widowed mother. In 1835 his father purchased 200 acres, being the nucleus of the present Maple Shade Farm, now the homestead of the subject of our sketch. Mr. Dryden received his primary education at the common school in his district, and afterwards attended Whitby Grammar School. When only nineteen years old he made arrangements with his father to



Hon. John Dryden,  
Minister of Agriculture for Ontario.

*Admission Fees.*—Clause 1 amended to read, "Tickets admitting one person each day, 25c.; Ladies, 10c.; children under ten years of age, 10c."

*Prize List.*—In the sheep division, class 8, section 7, "Best five sheep under two years old, bred by exhibitor," is amended to read, "First, \$15; second, \$10." Classes 8, 9, and 10 are similarly amended.

The following prizes are offered by the American Shropshire Association:

Grand sweepstakes, if won by a registered Shropshire sheep, \$50; and for registered Shropshire wether, two years old or over, first premium, \$10; second premium, \$6; third premium, \$3. One year old, and under two, first premium, \$10; second premium, \$6; third premium, \$3. Under one year old, first premium, \$10; second premium, \$6; third premium, \$3.

*Cattle.*—Class 1, section 2, was amended to read, "Best steer or heifer one and under two." In class 1 the special prize offered last year is cancelled and the following substituted by the Dominion Shorthorn Breeders' Association, "\$15 for best registered Shorthorn steer, and the same for best heifer."

A letter was read from the president of the Western Dairyman's Association, offering \$50 towards a dairy show to be held at the same time and place. This was accepted by the club. The Agriculture and Arts Association supplemented this amount by fifty dollars. On motion, the executive of the Western Dairyman's Association were requested to take charge of this part of the exhibit, and to prepare the prize list therefor. It was further decided that the matter of space be referred to the Guelph Fat Stock Club, the secretary of which is requested to call a special meeting of



work his farm on shares, and two years later he rented it from him and also 170 acres adjacent from his uncle, and later on another lot of 95 acres, both of which lots he subsequently purchased. Even when at first he took hold of his farm he was noted for the thoroughness with which he performed every thing, and it was not long before he had the farm underdrained and equal to the best in Canada.

As a breeder of purebred stock of different kinds, Mr. Dryden has more than a continental reputation. Shorthorn cattle of Cruickshank blood and Shropshire sheep are his favorites, but Clydesdales are also bred at Maple Shade. Besides making several importations of Shorthorns from the herd of the late Amos Cruickshank, in 1887 he purchased the entire herd of Mr. F. Cruickshank, Lethenty. Animals from the Maple Shade herd, and their descendants, are to be found in many parts of this continent. One of the most famous was the celebrated Bampton Hero, sold to Messrs. Watt, Salem, which was only once beaten.

As a public man Mr. Dryden is equally well known. Since 1879, he has represented South Ontario in the Local Legislature, and in 1890 he was chosen as Minister of Agriculture to succeed the Hon. Chas. Drury. His administration of his department has fully justified the appointment, and has been characterized by good common sense combined with thorough executive ability. Any thing that promises to be useful to the farmers of this province is given a trial by him, and, if found useful, is brought before them in the best manner—as witness, the encouragement given to dairying, the travelling dairy, the fruit experiment stations, and last of all, but not least, the travelling spraying outfits started out this year, all of which have done untold good and have been capital instructors.

Besides his legislative duties Mr. Dryden has found time to act on the boards of directors of live stock associations. He was for some years president of the Dominion Shorthorn Breeders' Association, president of the American Shropshire Breeders' Association, and also a director of the American Clydesdale Association, and his services were always in great request for such positions. It would be hard to find one who could fill the office of Minister of Agriculture for Ontario more satisfactorily.

#### Notes from Great Britain.

(From Our Own Correspondent.)

The Oxfordshire show was this year a very great success in every way, every class of stock being fully represented by excellent specimens.

Shorthorn cattle were a very fine lot, close competition throughout being the order of the day. The principal winners in the bull classes were Messrs. G. Freeman, C. W. Brierley, J. D. Willis, F. W. Bond, C. Morgan-Richardson, and J. Thorley. For cows over three years the competition for the premier place lay between those two grand specimens of this noted breed, Mr. C. W. Brierley's Rosedale Cowslip, and Mr. J. D. Willis' Sensation, the judges' fiat being that they should be placed in the above order, and Rosedale Cowslip afterwards was pronounced the best Shorthorn female in the yard and champion horned animal also in the show. In the two-year-old heifer class, Mr. J. D. Willis came to the front with a very grand young heifer, Miranda. In the yearling class the representatives of Messrs. Brierley and J. D. Willis again met, and

the contest was decided as in the older class, *i.e.*, Mr. C. W. Brierley's Jewel 2nd, first; Mr. J. D. Willis' Victoria Countess, by Count Lavender, being second. There were four classes for Herefords, but only ten exhibits, and the lion's share of the prizes went to Lord Coventry's excellent herd.

The Jersey class was very largely filled with very useful animals, some of the classes being of more than ordinary merit.

Kerries and Dexter-Kerries formed an attractive feature.

The cart horse section was small in point of numbers, but the general quality was very good.

The sheep section of the show was certainly an excellent one, particularly as regards the Oxford Down classes—where Mr. A. Brassey made his reappearance in the show-yard, and practically swept the principal portion of the prizes—and the Southdowns, which were shown with a good entry.

Hampshire Downs were better in point of numbers than last year, but of only ordinary merit. Lord Rothschild, Mr. A. de Mornay, and Mr. R. N. Carlisle were the principal winners.

The classes for other short-wools were well filled, and, as a whole, the sheep shown were up to the average, particularly Mr. E. Ellis' first and champion pen of ewes. The shearing rams were headed this year, as last, by Mr. James Blyth, with very excellent specimens of the breed; Mr. E. Ellis winning for shearing ewes, ram, and ewe lambs; Mr. E. Mathews also being noticed.

Cotswolds were slimly shown in point of numbers, but were very useful representatives of their breed, particularly those of Mr. T. R. Hulbert and Mr. Craddock, to whom the chief prizes fell.

There was a grand exhibition of Berkshire pigs, with entries from Messrs. Lawrence, Pincock, Benjafield, Buss, etc. Mr. E. Buss was the leading prize-winner, winning the champion prize for the best Berkshire in the yard with his grand homebred sow, Matchless.

In Large Whites there was also a good entry, and here Mr. E. Buss secured the lion's share of the prizes, as well as the championship for the best male and female.

The Bath and West of England Society's show, which was this year held at Taunton, has once more left behind it a record of success, both financially and also as regards the exhibition of horses, cattle, and sheep. The Shire horse classes were better filled than usual. In aged stallions, Mr. Chapman's Orchard Willow took the lead. The yearling class was headed by a very useful colt, Hendre Harold, being closely pushed by Mr. James Blyth's colt.

Mares and foals were a good lot, and Dunsmore Fashion II., by Vulcan, once more took the lead. In the three-year-old class we found Sir Walter Gilbey leading with a very excellent specimen, Dunsmore Dora; Lord Rothschild's exhibit coming second. In the two-year-olds Sir Walter Gilbey again came first with a grand and most promising daughter of the champion horse Harold, named Madge. The yearling class brought to the front a grand filly, the property of Mr. B. J. Bucknell, Holcombe Primrose, which won, and won well, her nearest opponent being another of Sir W. Gilbey's, Rokely Hostess.

The other heavy breeds classes were not very well filled, and had it not been for the truly grand specimens of Clydesdales sent by Lords A. and L. Cecil the classes would have been very poor, but these exhibits fully deserved the premiums they so easily won.

Devon cattle had forty-nine entries, and it is very satisfactory to note that a very large percentage were very choice animals; in fact, few, if any, can be described as other than first class. This was particularly the case in the young bull and heifer classes, which were of such even merit that the decisions of the judges were most difficult to arrive at. Mr. A. C. Skinner, who is the leading winner, must, therefore, be very highly gratified at his success, which in the cow and heifer classes amounted to a championship, two firsts, and three other prizes. In the bull classes Mr. J. C. Williams and Sir W. Williams were the principal winners.

Shorthorns were a very useful lot, the classes being well filled. The superiority of Mr. J. Deane Willis' fine herd was here clearly proven by the fact that to this owner, in the seven classes into which this section is divided, were awarded six first prizes and one second prize. Mr. G. Harrison won the other first prize, as well as several second prizes.

Hereford cattle were well represented with thirty-eight entries, and the competition was close. The winners of the principal prizes were Messrs. E. Yeld, A. E. Hughes, R. Green, A. P. Turner, and R. Edwards.

Sussex cattle came well to the front, and made a fine exhibit. These hardy beef cattle only require to be better known to become more and more popular. The number of entries present were thirty-four, and the principal prize-winners were Lord Derby (your late Governor-General), Sir F. Montifiore, and F. Warde.

The Jersey, Guernsey, and Kerry classes were well filled, while the class for Aberdeen-Angus was but small in number, but excellent in quality.

There was a grand show of the various kinds of sheep for which classes had been provided, and it was no small honor for Mr. Ellis' grand typical pen of Southdowns to once more prove that the Southdown sheep can beat all comers in open competition by winning a special prize for the best pen of ewe legs in the yard. Leicesters were a very grand lot of sheep, and there was close competition between Messrs. G. Harrison, Yelland, and Mrs. Perry-Herrick, the principal winners.

Cotswolds had only a small, but good, entry. There Mr. T. R. Hulbert repeated his Oxford victory. Seldom, if ever, have I seen a better lot of Devon long-wooled sheep shown together.

There was not a particularly good lot of Southdown shearing rams shown. The Prince of Wales took first and third, and Mr. Ellis second. Ram lambs were a useful class, headed by two grand pairs, which won first and second for E. Ellis.

Shearing ewes, however, were a splendid class, wherein Messrs. E. Ellis, J. Blyth, and Lord Bathurst were placed in the order named.

A very useful exhibit of Hampshire sheep was present, particularly in the ram lamb class, where Mr. A. de Mornay came first, closely pushed by Mr. James Flower, who won second here and first in the shearing ewes, wherein the competition was also close. For shearing rams, Professor Wrightson, of Downton College, was first.

Shropshire shearing rams made a particularly fine class. They were worthily headed by a very good sheep, the property of Mr. W. F. Inge. Mr. A. E. Mansell was a very good second, and a very large number of other exhibitors was noticed.

For ram lambs, Mr. T. Beach took the lead,

whilst for ewes, in an exceedingly level and good class, Mrs. M. Barrs secured the first place. Mr. A. Brassey won all through the Oxford Down classes with an excellent lot.

Dorset Horns were a very useful but small entry, wherein we found the leading winners to be owned by Messrs. W. R. Flower, J. Kidner, and W. C. Groves.

#### The Management of a Breeding Stud of Farm Horses.

Lecture, by LORD ARTHUR CECIL, before the Tunbridge Wells Farmers' Club.

It is often said that we poor farmers cannot afford to breed horses, because it takes the mares off their work for so long just when we want them most. My answer to that is that, when farmers say that, they do not consider that if they were practising horse breeding regularly they would always have one or two or more youngsters of different ages to supply the place of the mares while they were nursing, so that that objection really carries no weight with it whatever. Another thing which is constantly thrown up against horse breeding is that young horses cost so much before they are ready for the market. Well, so they do if kept singly; but if three or four, or even more, are all kept together, it is really extraordinary how little food they consume. Plenty of cut hay and straw, with bran and a very little oats, will keep colts going on and thriving; and, indeed, I question, if weight for weight were reckoned, whether it would not be found that growing colts were considerably cheaper than fattening bullocks; but when these questions are discussed, it should always be remembered that it costs no more to keep a good one than to keep a bad one; indeed, the bad one is generally the dearest, because we are always trying to hide its defects with extra food, to say nothing about our useful and indispensable, but somewhat expensive friend, the veterinary. Now, gentlemen, I have tried to show you why it is to your advantage to endeavor to increase the number of good colts reared in this district. May I now be permitted to say a few words on the actual management of mares at stud and young stock?

When a mare, such as I have endeavored to describe, comes in season and is served, no difference in her treatment or feeding should take place, but at the three weeks she should be examined and tried to see that she is settled. Many people are inclined to do this very severely, under the impression that there should be no mistake about her; but, as far as my experience goes, this is a very great mistake, as any little irritability which may be present in the mare is accentuated by much teasing, until she may present the appearance of being in season, or even may at that early stage come in season and require service, when, if only tested moderately, she might have been in foal to the first service. On this subject, however, it is difficult to speak with any certainty, or lay down any hard-and-fast line, as so much depends on the temperament of the mare, of which, of course, the man in charge ought to be the best judge. While on this subject, I may perhaps add that it is a very common thing to hear people saying a mare is coming to her first service if she looks like foaling rather earlier than might be expected. Now, though I should be very sorry to affirm that this is never the case, yet I am quite sure that it is a very rare occurrence. The average period of gestation of a mare is fixed at eleven calendar months, but their periods are very variable, and seem to depend largely upon the condition and health

of the mare. During the summer, under favorable conditions, an observant man will notice that if the mare is in foal her coat almost immediately will naturally become more glossy and she will generally thrive better, and this will continue right through the winter. She will hardly be injured with her ordinary work; indeed, I myself think it is better for her to go on with it right up to the time of foaling, though chills should be avoided as far as possible, and sudden and heavy strains in the cart either backwards or forwards, but especially backwards. As the time for her delivery approaches, her bowels should be carefully watched, allowing them to be neither too dry nor too loose. She should be given a loose-box at nights, and as soon as wax appears on her paps she should be seen at least every hour, night and day.

When the foaling comes on her, the less she is disturbed the better, but it is often a very great saving of labor to the mare to help the foal away. Very often, if it is far on in the summer and the mare has been at grass, nothing more is wanted, as the navel breaks and the afterbirth follows immediately. If, however, the mare is in high condition, the navel generally requires cutting and tying, and it is advisable to take the afterbirth away, which very often saves *parturient laminitis*. The placenta of mares is not adherent as in cows, and I have always found it ready to come away immediately after the foal, or along with it. If it is retained, complications are sure to follow. I am not quoting theory, gentlemen, but actual practical, personal experience, gathered from the foalings of some hundreds of cases I have been present and assisted at. Mares in their labor occasionally lie down in such a position that the foal would be crushed against the wall when born. A word to the mare as she sinks generally avoids this, though I have seen it necessary to make them get up again. Only once have I seen a mare foal standing in natural labor. It is very often possible to detect approaching labor in a mare twenty minutes or half an hour before actual labor commences—yawning, drawing together of the body, smelling round the box as if in search of food, and a peculiar anxious look in the eye, with occasional cracking and bending of the joints, being the signs. All these little things are worth noting, and are helps to prevent the accidents which may often disgust beginners with horse breeding.

When the foal is born and the placenta removed, I am strongly in favor of making the mare get up, and—with a halter on—if it is the first foal, let her smell the foal and lick it if she will. Sometimes mares are frightened or cross at their foals at first, but it is often on account of undue interference on the part of the attendant. As soon as it is certain she is not absolutely savage with the foal, she is better left alone till the foal rises. I like to see them do this about an hour after they are born, and directly they find their legs they begin to think about sucking, though very often they are so stupid that they will try every place but the right one, and sometimes even will not suck when the pap is put into their mouth. When this is the case, one of three things is the cause—either nature says its stomach is not quite ready for milk, or there is something wrong with the milk, or something wrong with the foal. In any of these cases it is a safe thing to milk the mare nearly dry, and smear the milk over the paps and the foal's mouth, or in very protracted cases to give the foal some with a spoon. Milk coming on the mare long before foaling, and then disappearing again, means a weakness coming over the foal, and it is often in these cases that the sucking difficulties occur when the foal is born.

(To be continued.)

### The Ontario Agricultural College.

It is not so very long ago since the occupation of farming was much looked down on, and it was a common occurrence to hear a father say of one of his sons, "He is so dull and stupid that I shall make a farmer of him." Now this is all changed. It is gradually being recognized everywhere that farming requires as much brains as any other business; in fact, it is seen that the farmer who does not conduct his operations intelligently will never make a success of them, and will, at best, only be able to make a livelihood, with no further prospect in life.

It is now some years since the coming change in the farmer's standing was discerned by far-seeing, prominent men, and these set to work to see in what way the farmer could be best prepared for the coming order of things.

In fact, such was its reputation that its graduates were eagerly sought for by colleges in the United States to fill appointments on their staff. It is true that no recent appointments have been made by Americans of Guelph men to positions in their colleges, but this is solely because they are now turning out good men themselves, and, naturally, when they can do so, give the preference to home products.

The present staff of the college, illustrations of whom appear on our front page, are an exceedingly fine and efficient body of men, between whom there is the kindest feeling. At the head of them is President James Mills, M.A., LL.D., under whose fostering care the college has grown to its present size and usefulness. His early life was passed on a farm in the county of Simcoe, but the loss of an arm in a threshing machine at the early age of



Third Year Students, O.A.C., 1895.

G. A. ROBERTSON. A. A. KING. W. A. KENNEDY. E. F. WHITE.  
A. T. WIANCKO. J. W. WIDDIFIELD. A. H. CHRISTIAN. D. F. KIDD.  
W. M. DOHERTY. F. ROWE.

The establishment of colleges, where the rising generation of farmers could be taught the science of farming, and the explanation of much that was going on about them on the farm, the reasons for which they could not give, seemed the best method by which this could be done.

The era of agricultural colleges thus began, and among the first to be erected was the Ontario Agricultural College, at Guelph, popularly known as the O.A.C., which was erected by the Ontario Government in 1873, on a block of land purchased from the late Mr. F. W. Stone, about a mile from the city of Guelph. During the early history of the college, it, like many others, passed through several vicissitudes, but these trials served to point out the weak spots, and the college advanced step by step till it justly won the reputation of being an institution inferior to none of its kind on the continent.

have been constructed from sketches furnished by him and under his personal supervision.

In the fall of 1883, President Mills organized the farmers' institutes of Ontario, and took full charge as director of institutes, without pay, for ten years from that date. In conjunction with Professor Shaw, formerly editor of THE JOURNAL, he wrote the "First Principles of Agriculture," for use in the public schools of this province. This work was published in 1891, and has had a very large sale, not only on this continent, but in other countries as well.

As head of the college, President Mills is well known for his geniality and hospitality, to which many besides the writer can testify, and no more fitting testimony to his good management of the college can be wished for than that given by members of the Legislature of all shades of politics at their annual visit last spring.

The senior member of the staff is Professor J. Hoyer Panton, who occupies the chair of Natural History and Geology. Professor Panton was born in Cupar, Scotland, but most of his early life was spent near Oshawa, on a farm. He commenced teaching in 1865, in S.S. No. 2, Reach township, where he remained two years. After three years' more teaching at Celardale, he was appointed assistant master in the Oshawa High School. In 1877 he graduated from Toronto University, obtaining the silver medal in the department of natural science and the McMurrich medal for the best essay upon the results of original research. In 1878 he was appointed Professor of Chemistry at the Guelph college, a position which he held until 1885, when he received his present appointment.

Professor Panton has contributed numerous papers and articles to the British Association and agricultural journals, besides a number of bulletins issued in connection with his department, and has lately published two books for the use of rural schools, one on economic geology and the other on entomology. In 1885 he was, without solicitation, elected Fellow of the Geological Society of England, and, in 1887, a member of the Victoria Institute, London. He has been a lecturer at farmers' institutes since their inauguration, and his lectures have been much appreciated. He has travelled a great deal during vacations, for the purpose of widening his knowledge of science, visiting experiment stations, and other places. In 1887 he visited the celebrated Rothamsted station in England.

Chemistry occupies a most important place in reference to agriculture, for without it many of the problems of agriculture could not be explained. Over this important department Professor Shuttleworth presides. This gentleman was born at Mount Albert, Ont., and, like most of the staff, passed his early life on his father's farm. He entered the Ontario Agricultural College in the fall of 1879, graduated in 1882, and was appointed assistant superintendent of the experimental department of the college the same year. This position he held till 1885, when he resigned. He entered McGill University two years later, and graduated from thence with the degree of B.A.Sc. in 1890.

Immediately after graduating, he was appointed Professor of Agriculture in the Prince of Wales College, Charlottetown, P.E.I., a position he was filling when appointed Professor of Chemistry at Guelph in June, 1891. During that summer he studied in Harvard University, making a speciality of organic chemistry, and entered on his present duties in October, 1891.

The importance of her dairying interests to Ontario is incalculable, and, therefore, special interest centres round Prof. Dean's department, where the visitor and seeker after knowledge can spend many an hour with profit and advantage. Prof. H. H. Dean first saw the light in the county of Waterloo, but his early life was mostly spent near the village of Harley, in Brant county. He graduated at the Ontario Agricultural College, in 1890, and received the degree of B.S.A. The following year he was appointed to take charge of the dairy department of the Ontario Agriculture College. His first year's work was chiefly at farmers' institutes, special dairy meetings, and with the travelling dairy. Since then he has been more at the college, doing experimental work, taking charge of the dairy school, which was established in 1893, and giving lectures to college and dairy students. Prof. Dean has written several bulletins on dairy topics, and is also known as a contributor to THE JOURNAL and other agricultural papers. His bulletin advocating the addition of two per cent. to the fat readings in paying patrons of cheese has excited much comment, and has been severely criticized, but the experiments at Guelph certainly seem to bear him out, and a number of cheese factories have adopted his system.

The post of Professor of Veterinary Science is occupied by Dr. J. H. Reed, V.S., Guelph, who succeeded Dr. F. Grenside, V.S., in December, 1892. Prof. Reed received his early education in Stewarttown and Georgetown schools, and, in April, 1882, graduated at the Ontario Veterinary College, taking the gold medal for general proficiency, since which time he has practised his profession in Guelph. He takes full charge of the educational and practical branches of his department at the college.

An energetic and thoroughly practical farm superintendent is a necessity at an institution of this kind, and these requirements are fulfilled in Mr. William Rennie, who now holds that position. Mr. Rennie, as many are aware, was born in the township of Scarborough in 1835, and spent his early life on the farm. For many years he carried on successfully the business of a seed merchant in Toronto, but had, shortly before his appointment as farm superintendent, in October, 1893, resigned the management of that business in favor of his sons. The thoroughness of the work done under Mr. Rennie's charge must be apparent to every visitor at the college.

No agricultural college is complete without an experimental department, and it is here that so many problems in agriculture are worked out to a satisfactory conclusion. The experimentalist at Guelph College is Mr. C. A. Zavitz, B.S.A., who was born at Coldstream, in Middlesex county, Ont., and, like so many others of the staff, passed his early years on the farm. After taking a second-class certificate at Strathroy High School, he entered the Agricultural College, Guelph, where he won a diploma in 1886, and took his degree of B.S.A. at Toronto University in 1888, winning first prize the year after in the agricultural examination held by the Agriculture and Arts Association of Ontario. From 1886 to 1893 inclusive, he acted as assistant superintendent of experiments to Prof. Shaw, and towards the end of that year, after Prof. Shaw's resignation, he was appointed to the head of the experimental department, being directly responsible to President Mills.

Mr. Zavitz is also director of co-operative experiments in agriculture in connection with the Agricultural and Experimental Union of

Ontario, and to him much of the success of that society is due. Since his first entering on his work, the station work has increased from 56 plots of ground under experiment to over 1,700 in the present year, and the co-operative work has grown from 60 plots to over 1,600.

On the resignation of Prof. Shaw in 1893, the office which he had held was divided up, the farm superintendent's place being given to Mr. Rennie, and the post of lecturer on agriculture and the charge of the live stock experiments to Mr. George E. Day, a native of Wellington county, who had passed through the college with great credit to himself. Mr. Day entered Guelph Collegiate Institute some ten years ago, and obtained a second-class teacher's certificate. He taught school for four and a half years, and entered the Ontario Agricultural College in the fall of 1891, obtaining his degree two years later, besides being gold medalist in 1892. He took charge of one of the traveling dairies during the summer of 1893, and in the fall of the same year was appointed to his present position, which he worthily fills.

Mr. H. L. Hunt, the horticulturist, was born in that land of peaches and cream, the Niagara district, and is now twenty-eight years of age. His early life was spent on his father's farm, about three miles from Niagara Falls, where he acquired a love for farm life, and gave considerable attention to fruit growing and gardening.

At the public and high schools on the historic Lundy's Lane, he received his early education. At the high school he obtained a third class teacher's certificate, and for nearly a year took up second-class work; but, help being scarce on the farm, he left school, and for four or five years worked on his father's farm. In 1888, he entered the Ontario Agricultural College, where he took a good stand, and at the end of the course received his diploma and the gold medal for general proficiency. In 1891, he obtained the degree of B.S.A. from Toronto University, and returned to the farm to prove the value of a scientific education to the farmer. Spraying, pruning, and cultivation were carefully attended to. The appearance of the place greatly improved; a silo was built, a regular rotation of crops adopted, and work generally conducted on scientific principles. At the end of three years the cropping of the farm was nearly doubled, which he declares was due solely to the adoption of improved methods learned at the college.

In 1892, Mr. Hunt was selected as one of the speakers for the farmers' institutes, and has served in that capacity ever since, having gone through the northwestern, southwestern, and eastern parts of the province.

In 1893, he was appointed horticulturist at the college. Before entering upon his duties there he took a special course in horticulture under Prof. Bailey, of Cornell University, and spent some time visiting the leading nurseries and fruit sections in New York State, and the large gardens, arboretums, and greenhouses in the vicinity of Boston and New York.

At the college Mr. Hunt gives a full and thoroughly practical course in horticulture, and, as far as possible, gives practical instruction in the care and management of the orchard, garden, greenhouse, and lawn.

In connection with the Ontario Fruit-Growers' Association Mr. Hunt has taken an active part in the establishment of the fruit experimental stations lately established by the Provincial Government. Much of his time this summer will be taken up inspecting those already established and locating new ones.

Mr. Francis Harrison, B.S.A., is bacteriologist, and is also the only Englishman south of the border who occupies a position on the staff. His early education was received at the Westminster School, London, whence he went to Mason's College, Birmingham. He passed in the first class at the College of Preceptors and at the Cambridge Senior Local in 1888, and was an undergraduate of London University in 1889. He took the full course at the O.A.C., and received the degree of B.S.A. from the University of Toronto in 1892. He received the appointment of assistant in Biology at Guelph in 1892, and passed the Summer Course at Cornell University in 1894. In January of this year he became bacteriologist at Guelph on the creation of that department.

English and Mathematics are under the care of Mr. J. B. Reynolds, B.A., who was born at Solina, in Durham county. He taught in the public school at Enfield for three years, attended the high school at Oshawa, and afterwards the University, Toronto, where he obtained the degree of B.A. in 1893, and was specialist in mathematics and physics. He has filled his present position since September, 1893.

Having given this sketch of the staff of the college, we will briefly mention the students, the course of instruction followed at the college, and the various college buildings. The students during last fall numbered 180, of whom ten were third-year men, a half-tone of whom will be found on another page. Of these ten, eight graduated this year at the University of Toronto, and earned the right to add B.S.A. to their names. These are G. A. Robertson, Kingston, Ont.; E. F. White, Clarksburg, Ont.; F. Rowe, London, Eng.; J. W. Widdifield, Sylvan, Ont.; A. T. Wiancko, Sparrow Lake, Ont.; A. H. Christian, W. A. Kennedy, Apple Hill, Ont.; and W. M. Doherty, Eglinton, all of whom have had more or less previous experience in farm work. President Mills always advises that students pass some time on a farm before entering at the college, as they thus get grounded in the first principles of agriculture, and are ready to be pushed along more quickly than those who have not had similar advantages. Each county in the province is allowed to send one student free of tuition, the nomination being made by the county council. The students who attend the college are, without exception, as fine, healthy, and orderly a set as one could find anywhere, and reflect great credit on themselves and the institution. In addition to students on the general roll, 103 took the dairy course, and the short course for teachers.

The instruction given the students is just what is expected to be of most advantage to them in their work when they return to the farm, and may be inferred from glancing at the work which the professors and lecturers have to do. The lectures are arranged to the best advantage, and the practical side of the instruction is insured by the students taking, in turn, a hand at the various departments of the farm work, including dairying and experimental work.

The college buildings are well arranged and planned. As said before, all the newly-erected ones are from plans drawn up by President Mills. There is one more necessary to complete the lot, an agricultural building, but this is already in hand, and, judging from the plans, will be commodious, yet without wasting space. It is being erected to the southeast of the gymnasium. Our composite picture shows the side and front view of the

main college building, containing dormitories, classrooms, etc., with the President's apartments in the left of the front, a birdseye view of most of the buildings with the main building in the background, the botanical laboratory to the left, the chemical laboratory to the right nearer the main building, the gymnasium, opposite the botanical laboratory, and the carpenter shop and barns extending away on the right, a view of the new and commodious dairy school building and part of the dairy stables and the silo, the inside of the botanical laboratory showing, students at work, a front view of the gymnasium, the new poultry buildings and the experimental grounds.

All of these buildings have been erected from time to time, as was found necessary; the fine big barn, however, is one put up to replace a previous one, which was twice destroyed by fire. The botanical laboratory, with its complete set of new greenhouses, presents an opportunity for a thorough study of botany and horticulture, where the student may learn the mysteries of grafting, hybridizing, etc. The work done in the chemical laboratory is of a practical nature, and latterly an elaborate series of experiments have been carried on by Prof. Shuttleworth and his assistant, Mr. Harcourt, B.S.A., in the analysis of milk and cheese for the dairy department.

The health of the students is well looked after, and the fine gymnasium building, built for their convenience, is well patronized.

In the stables and loose boxes and at pasture are to be found representatives, both male and female, of no less than eleven breeds of cattle, nine breeds of sheep, and five breeds of swine, viz.: Shorthorn, Hereford, Aberdeen-Angus, Galloway, Devon, Sussex, Ayrshire, Holstein, Jersey, Guernsey, and Red Polled cattle; Shropshire, Southdown, Hampshire Down, Oxford Down, Suffolk, Dorset Horn, Cotswold, Leicester, and Lincoln Sheep; and Berkshire, Improved Yorkshire, Tamworth, Poland China, and Chester White pigs—all kept for the instruction of the students in attendance at the college. At the time of our visit in May there were sixteen steers under experiment in feeding. These were mostly an ordinary lot brought from Manitoulin Island, and the way in which they fed illustrated well the advantage of having some purebred blood in cattle destined for the block, as two of them which showed more breeding than the others far outstripped their companions. Both here, as elsewhere on the farm, we noticed system in the work done.

Before passing to the dairy and poultry departments, which are divided from the main buildings and other departments by the main road leading from Guelph, we would briefly mention the experimental grounds, which are under the care of Mr. Zavitz. In these are conducted the regular tests of grains, grasses, roots, etc., in connection with the college, and also those held in connection with the Experimental Union throughout the province. The first-named tests give the results as showing the suitability, or otherwise, of the tested grains, etc., for the district round Guelph, while those tested by farmers in connection with the union throughout the province show their general suitability, or otherwise, for the whole province. Our visit took place on May 20th, when all the crops were showing the effects of the frequent frosts that had been experienced since May 12th. The earliest sown grain this year was put in on April 18th, with successive sowings in some plots to test the effects of growing at different dates. Spring grain looked fairly well, but the fall wheat in

the plots, on the whole, had come through the winter badly. A test of fall wheat plots seeded with grain from crops cut at various stages, such as when dead ripe, when a little less ripe, when cut at the time that most farmers cut, and yet earlier, showed that the best stand was from that cut when dead ripe, although the other two named were not much inferior, but that from the crop cut when not nearly ripe was poor.

The dairy department is very complete. In the stables are twenty-four very fine milch cows, five of them being thoroughbreds, each one with its record card of milk and butter fat before it. The round silo shown in our illustration holds 250 tons. New stables for experimenting with feeding steers and other live stock are in course of completion. The new dairy building, also shown in the illustration, which was erected some two months ago, is fitted with five separators, a butter worker, and churn, all for creamery use. The separators are the DeLaval, Russian, (run by steam) the U.S., the Danish Weston, and the Alexandra. Refrigerator rooms are attached, also a testing room with six testers. There is also a cream churn for the general class room, a live stock class room, a pasteurizing room, a ladies' room, neatly fitted, men's room, and Professor Dean's office. This building is used for the dairy school work. The older dairy building, which is in constant use, contains four separators, two hand and two power, viz., Baby DeLaval, Alexandra (hand), a combined U.S. separator and extractor (power), and a 1,000-lb. Alexandra (power), besides churns and other appliances. In this building the home dairy course is held. In the cellar are to be seen the methods of setting cream in force on ordinary farms, ranging from the common box to the Cooley creamer. In the cheese department Mr. R. W. Stratton, assistant inspector of the dairy school, is now employed to make cheese all the year round in order to prove, by an elaborate series of experiments, whether the quantity and quality of cheese produced is in proportion to the fat contained in the milk. So far the results have gone to show that a pound of fat in milk testing from 3 to 3.5 per cent. of fat makes more cheese than a pound of fat in milk containing more butter fat than that. Professor Shuttleworth and four assistant chemists are now assisting Professor Dean in determining this question.

The new poultry houses, Nos. 1 and 2, are situated a short distance from the dairy buildings. No. 1 is a building 140 x 15 feet, containing, besides pens, the office and brooder room, while in the cellar are four incubators, the Pineland, two Victors, and a Safety (Meyers). Meyers' brooder is also used. The compartments for the fowls are large enough to give them plenty of range, while outside are large yards for exercise. These yards are divided by woven wire, the lower strand for which was especially woven for the purpose in Chicago. It is close enough to prevent the cocks fighting, and is an improvement on boarding. Extra runs for the fowls to get green feed are located further beyond, one for every three yards, and the fowls are turned into these by swinging gates. In the building is a boiler room and store rooms for feed at either end. The drinking fountains are very handy. They keep filled to a certain height all the time, and are high enough to be out of the way of dirt. The perches in use are the invention of President Mills, and are movable. To ensure keeping out the frost, the sides of the building are lined with three thicknesses

of boards and two of tar paper. In building No. 2 are kept the breeding pens. Twenty-four breeds are kept at the present time, but these will be added to from time to time.

This somewhat hasty sketch of the Ontario Agricultural College will serve to give those who are not acquainted with it some idea of what is to be seen there, and of the many opportunities of instruction that can be obtained by an energetic student. Our aim is solely to bring these opportunities before our readers, so that those who wish their sons to get a first-class agricultural education may know where to send them.

### The Toronto Industrial Exhibition.

It seems rather early in the season to be contemplating the opening of the Toronto Industrial Exhibition, which ushers in the fall, but in an undertaking of this magnitude preparations have to be made long in advance. In fact, it would be quite correct to say that no sooner is one fair over than the work of planning and arranging for the next begins. The fair commences this year on the 2nd of September, and continues until the 14th of that month, and the indications are that in point of interest, attractiveness, and number and quality of exhibits it will break the record. The management have left no stone unturned to that end, and in order to increase its usefulness and popularity have undertaken some important improvements, which we are sure will be appreciated by exhibitors as well as the general public.

The prize list, which has undergone a thorough revision, has been published, and it may be of interest to our readers to note some of the more important changes in the agricultural and live stock departments. There is little change in the horse department, except that a fourth prize has been added in some sections. In the cattle department a large amount has been added to the prizes offered in the Jersey, Holstein, and Ayrshire classes. A fourth prize is given in all these. In Devons and Herefords the prizes have been reduced, owing to the comparatively limited number of competitors. A third prize has been added to all sections in the Guernsey class. These increases ought to have the effect of largely increasing the display of choice dairy breeds. A change that ought not to be overlooked is that the ages of the milk breeds will be calculated to the first of August, in place of the first of September as heretofore. The milk test, which proved so interesting a feature last year, will attract numerous competitors by the handsome premiums offered.

Several special prizes are given in the sheep department, and a number are also to be awarded for wool in the fleece.

Although no new pigpens will be built this season, as was hoped might be done, exhibitors in this department will be pleased to note that an additional \$100 has been added to the prizes, which should be a compensation for the postponement till next season of the new pens, which will certainly be erected then. A careful revision has been made of the lists for grain, roots, vegetables, and horticultural products, the prizes in many instances being considerably augmented.

The management is endeavoring to keep pace with the yearly increasing importance of the Canadian cheese industry, and has increased the prize for white factory cheese to the same amount as was formerly given for the colored article. June and July cheese are

classed together as distinct from August cheese, for which separate prizes are offered. Liberal premiums are set down for both creamery and farm dairy butter. The contributions to the prize fund from the Eastern and Western Dairy men's Associations and the Ontario Creameries' Association have enabled the management to deal liberally with exhibitors in this department, so important in view of the rapid and encouraging development of this profitable branch of our export trade. In other departments the list shows careful revision, with a view of enhancing the attractiveness and completeness of the display by stimulating competition. Any one who desires to receive a copy of the list should send his name and address on a postal card to Mr. H. J. Hill, the manager, Toronto.

All entries in the live stock department close on August 10th, so that no delay should take place in forwarding them, as it is always desirable to avoid the confusion and inconvenience involved by a rush at the last.

The exhibition grounds are being greatly improved to secure the convenience of exhibitors and the public, and some needed alterations and additions have been made. A new building according to the latest modern plan, costing \$6,000, has been erected for the sheep exhibit, where they will be shown to much better advantage than last year. Drains have been laid between the horse stables and cattle sheds to carry away the water from the down pipes. The stalls in the cattle sheds have been re-graded, which is a marked improvement, and the track has also been improved and arrangements effected for showing horses to harness on the track when desired by exhibitors.

The Toronto fair gives a grand opportunity to the farmer of a few days' holiday, with an entire change of scene and surroundings, during which he can familiarize himself with the advances made in agricultural and mechanical knowledge, and the various improved methods and processes which have a practical interest for him. He will return brighter and fresher for the contact with the busy life of the city, bringing with him new ideas and enlarged views of the country's progress and development. The railways and steamboats, as usual, will facilitate travel during fair time by giving greatly reduced rates, so that the advantages to be derived by a visit to Toronto will be placed within the reach of every one. It affords a break in the monotony of farm life and a means of securing a pleasant outing, combined with practical instruction and healthy, harmless recreation, of which every farmer and his family should certainly avail themselves, especially when it can be accomplished at so trifling a cost. Any intelligent, observant man will find himself repaid for the outlay many times over by the information he will gain.

### Montreal Provincial Exhibition.

The fourth Provincial Exhibition will be held this year in the city of Montreal, from September 12th to 21st.

From present indications there is every prospect of the forthcoming exhibition being more successful than its predecessors. Many prominent firms have signified their intention of exhibiting this year, and an encouraging feature is the fact that a number of gentlemen have voluntarily offered gold medals and money prizes to induce competition.

Considerable additions have been made to the premiums, and the sections in all classes have been carefully revised. The class for

French draught horses has been altered to one for French coach horses, with an increased number of sections; the pony class has been revived and extended, and gold and silver medals will be offered for competition in the high jumping contests. Messrs. Bru neu, Currie & Co. have offered a gold medal and a silver medal to the two exhibitors winning the largest number of prizes in the live stock classes; Mr. E. Dunham, of the Balmoral Hotel, has offered a gold medal for the best gentleman's turnout; Mr. S. Osborne has offered a first prize of \$50 for the best pair of matched carriage horses, and Mr. Robert Wiseman a gold medal for the best Hackney horse.

In the cattle department the class for working cattle has been erased, and the amount added to the class for fat cattle. Mr. James Johnston has donated special prizes to the amount of \$50 in the Ayrshire class.

In the sheep department the class for cross-breeds has been struck out, and the premiums for Cotswolds, Leicesters, and Lincolns have been increased. The American Oxford Down Association of Springfield, Ill., have donated \$100 for competition in this class.

The premiums in the swine department have been largely increased, as a special inducement to the breeders in the Province of Quebec, who have of late years gone largely into this class of stockraising.

The prospects for the poultry show are far in excess of previous years. A considerable increase of exhibits is anticipated, and, to meet the extra accommodation required, the poultry building will be enlarged.

The breeding pens have been altered to one male and three females, old or young, and the black and white Wyandottes are separated.

Considerable additions have been made in the dairy department. Extra premiums are offered to the syndicates and inspectors of butter and cheese factories.

In the line of agricultural products greater importance has been given to the root sections.

The machinery and industrial departments have been carefully reorganized. There will be no charge for entry, or for space or power in the machinery departments, and the exhibitors of agricultural implements will be permitted to provide power to suit their own requirements, as at the Toronto and other exhibitions.

The management trust that manufacturers will determine to assist their own Provincial Exhibition by coming forward with a fine display of the material they produce, and show to the farmers and people generally the value and character of their respective products.

The Horticultural Society of Montreal are co-operating with the Exposition Company to have a splendid floral display, which they are determined shall excel all their previous efforts.

There will be an excellent programme of music and attractions provided, and the citizens and public generally may confidently look forward to a very superior exhibition.

The great success of the bench show of dogs in 1891 has induced the management to arrange for another dog show in connection with this year's exhibition, under the auspices of the Montreal Kennel Association. The two buildings on the park side adjoining Park Avenue will be utilized for the show, and there is no doubt that the efforts of the Kennel Club will prove to be successful.

## Lucerne Clover.

Editor Canadian Live Stock and Farm Journal:

SIR,—I was surprised to see a letter in your paper from my old friend, William Rennie, on "Lucerne Clover." I have had it on one of my farms for twelve years, and would not be without it on any account. I had twenty five (25) tons of hay last year, and it is the best hay I had. Cattle will eat it before any other. It will only take a few years before our farmers would not do without it on any account. If our dairy farmers would grow it they would be able to sell one-quarter more butter and cheese than they do now, for they would have plenty of feed in the summer when all other grasses are dried up.

My second crop last year was fit to cut at the time we were making timothy hay. Instead of cutting I put on it a carload of culled steers, and I never saw steers gain so fast. They brought £16 5s. per head in Liverpool market. I think the ten acres put on \$6 per head on the load.

On the 13th of May last I gave eighteen steers the run of nine acres when the lucerne was eighteen inches high. They tramped some of it down, but have eaten it since. They have plenty of other grass, but I nearly always find them on the lucerne.

One of my neighbors has quite a number of good fat hogs on lucerne clover alone, without grain, and I think they are too fat to fetch the highest price.

I could say a great deal more in its favor. I have thirty acres sown, and I find that all stock thrive well on it. Mr James Griffith, London, has had a field of lucerne for some eleven years. Ask him what he thinks about it.

ALBIN RAWLINGS.

Forest, Lambton, Ont.

Editor Canadian Live Stock and Farm Journal:

SIR,—I notice that you ask persons who have had experience in feeding lucerne to give their opinion as to its value as a fodder plant. I have fed it for the last few years on the farm, and have had no trouble with it. It should be cut early, and, when properly cured, it makes a first-rate fodder. For pasture it cannot be beaten. Cattle, sheep, and horses eat it greedily. After it gets once established in the land it lasts for a number of years, and gives both an early and late herbage. We have cut it three times in a season, and then had a good growth afterwards.

Birdsall.

R. E. BIRDSELL.

Editor Canadian Live Stock and Farm Journal:

SIR,—I noticed Mr. Wm. Rennie's letter in last JOURNAL re lucerne clover, also "Subscriber's" letter of enquiry.

To myself, who have learned to look upon lucerne as a necessity, Mr. Rennie's letter would be alarming were it not that, having grown and fed lucerne for twelve years, I cannot recollect a single case of impaction in my herd in that time, while I have a distinct recollection of some bad cases before I commenced its use.

Perhaps, at the experimental farm, it is grown alone. Mine is generally mixed with other grasses. This year will be an exception, however, as, on account of extreme drought, I have hardly anything else. My land is, in great part, dry, light, or gravelly soil, purchased from time to time, when completely worn out, because it happened to adjoin my own. On one of these farms, where not a ton of hay was raised for several years before it came into my possession, and on which it was believed no hay could be raised, I have repeatedly harvested about forty tons of hay, besides having more pasture and grain than was grown formerly. I do not think such results can be obtained on such land, with ordinary culture, without lucerne. On the soil described, a regular system of rotation is neither practical nor desirable, and lucerne is more permanent than any other clover.

After experimenting with various grasses and "permanent pastures," I have prepared a formula of my own that suits my circumstances. I aim to sow, per acre, 4 lbs. red clover, 4 lbs. lucerne, 4 lbs. timothy and 1 lb. orchard grass, substituting alike for lucerne and red-top for orchard in low spots. Lucerne and orchard grass are inclined to grow in bunches. The red fills up the first year and that is the last of it, and, afterwards, there is generally a sod of the other three. Lucerne usually lasts several years, the only exception being the spring of 1893, when it heaved, in this locality, worse than other clovers.

Read, Ont.

J. C. HANLEY.

## Special Stock Reviews.

## Oxford Downs at Sylvan and Brant Stock Farms.

Messrs. Turner and Jull, who are, respectively, the owners of the above farms, are conjointly breeding a flock of very superior Oxford Down sheep, which, for numbers and uniform excellence, compare favorably with any of the breed.

The foundation stock were principally of Adams and Hrassey extraction, while the last ram used, which sired the fine lot of shearlings at present on hand, was bred by Mr. H. Arkell, Kempford, England. This year's crop of lambs were also sired by this sheep, which appears to have done his proprietors good service, as his get appear to have been uniformly good.

As a tribute to the shearing qualities of Oxfords, we were shown three shearing ewes which had clipped 45½ lbs. of wool, or 15, 15½, 15¾ lbs., respectively, while some of the rams, we were told, did nearly as well. Others did better still. However, the sheep were so big after being stripped that one could easily understand why they are such heavy producers of wool.

There are a fine lot of shearing rams, which display plenty of good Oxford character, some of which show extra good development, while no one could help being pleased with the beautiful lot of shearing ewes on both these farms.

The lambs evidently had been dropped early in the season, as they were well grown. Among the ram lambs, of which we counted upwards of twenty five, were some great, lusty fellows which will be large enough to do service next autumn. These, with the fifteen or sixteen shearing rams, will be well worthy of the attention of those on the lookout for rams to head flocks at next mating season. Messrs. Turner and Jull will have some good things of all ages to dispose of, and Oxford breeders generally will find it to their advantage to pay them a visit, or write them for particulars.

## Oak Lodge Yorkshires.

Few breeders have made as great a success in their respective departments of improved farm stock as has Mr. J. E. Brethour, Burford, who not only has proved his skill as a Yorkshire breeder, but has gained the confidence of his patrons through a desire to give satisfaction by sending out the best individuals that can be produced. Oak Lodge Yorkshires have obtained a continental reputation through laurels won at every leading show in Canada, culminating in the achievements at the Chicago World's Fair, the history of which is still fresh in the minds of our readers.

In no manner do we find former efforts relaxed at this establishment. The same strict attention to details has been followed as formerly, while judgment in mating and generous care have been pursued with a view to produce a hog at once suitable to the feeder and bacon-cutter, and neither expense nor trouble has been spared in getting together the best individuals of the breed. Neither has there been any falling away in numbers; on the contrary, we find the herd stronger numerically, with a greater choice in good specimens than in any previous year.

Seven boars and over forty breeding sows form an array showing careful selection difficult to duplicate in any line of breeding, while the meritorious display which their offspring exhibit is a fitting tribute to skilful mating. Three of the seven boars are imported. Dominion 3rd and Kincroft Hero were both bred by Mr. Walker Jones, Little Mollington, Chester, England, while Holywell Emigrant was bred by Mr. Sanders Spencer, Holywell Manor. Dominion 3rd won first in his class at Toronto, and also headed the first prize herd, and again won the special premium for boar and four of his get. At the London Western Fair he was equally successful, and he has also proven himself equally valuable as a breeder. Kincroft Hero, which, by the way, is an own brother to the sow Marion that has done so much for the Oak Lodge herd, has done good service, as the pigs by him testify, while Holywell Emigrant is also pleasing his owner by getting some grand young things.

Of the pigs bred in the herd Mr. Brethour speaks highly of Oak Lodge Diamond, and claims that he is one of the best boars he has ever used. He is of combined Duckering and Ashworth breeding. His dam, Lady Duckering, which was imported from the former herd, won first in her class at Chicago, while his sire was bred by Mr. Ashworth, one of the most noted English breeders. Oak Lodge Diamond has been a prominent winner at Chicago and in Canada. To attempt to describe the vast array of sows and give a detailed account of their breeding would entail a greater task than we have time to undertake here. At the same time we would mention a few such celebrities as Oak Lodge Primrose, which, at local shows, fairly beat those that had previously won at Toronto and London. The immense scale, great length, and

smooth finish of this sow are remarkable. Oak Lodge Rose and, that won first in the class for sows over a year when thirteen months old at the last Industrial, has done wonders, and will be apt to come to the front again, although her pen companion, Oak Lodge Donna, is likely to be a still stronger competitor for the same class at the coming shows. She is, indeed, a superb specimen, and is a yearling sow hard to beat in any company.

Among the choice young things we especially noticed the pair that won second in the bacon-curers competition at the Fat Stock Show, Guelph. At five and a half months they weighed 213 and 220 lbs., respectively. They have developed splendidly since, and are now a beautiful pair. Several pens in the piggery were filled with grand young sows of suitable ages for mating, while others have been bred to supply customers with something especially good in this line. In going our rounds among Yorkshire breeders we frequently meet with boars from Oak Lodge, and although the demand for these taxes the capacity of this excellent herd, still we noticed some especially good individuals which should make their mark wherever they may be placed.

As an idea of the volume of business transacted Mr. Brethour has shipped 276 pigs during the last year. These have been sent to no less than ten of the adjoining states, from Maine in the east to Washington in the west, while each of the provinces of the Dominion has claimed its share, pigs having gone as far as British Columbia in the west, while Mr. Brethour informs us that he has done as much business in Prince Edward Island as at any other point. It will repay anyone who is interested in breeding swine to pay this establishment a visit, as Mr. Brethour has made a thorough study of the business, and is now ready to show his stock and impart any useful information.

## Meadow Brook Fruit and Stock Farm.

The proprietors of this establishment are Messrs. Samuel and W. H. Collinson, and it is situated near St. David's, in the famous Niagara peninsula, which has been long known as favorable for fruit production. The farm contains two hundred acres of fine land, and, although it has only been a few years in the possession of the present proprietors, yet they have already planted out some seventy-five acres in fruit, and the growth the trees have made in four years speaks of constant cultivation, and a liberal application of fertilizers.

While many peach orchards have suffered badly through the continued frost, there is a prospect of abundance of fruit at Meadow Brook, the dense foliage having done duty in protecting the fruit, a fact which Mr. Collinson attributes to the fertilizers used, as other orchards in the same locality which have received less attention and have a scanty covering of leaves are destitute of fruit.

Of the seventy-five acres fifty are set with peach trees, fifteen with grapes, six with pears, and four with cherries and quinces. The best varieties of peaches have been planted, and include Crawford's, early and late, Fitzgerald, Crosby, Foster, Early Rivers, Alexander, Mountain Rose, and Longhurst, and it looks just now as if the fruit department at Meadow Brook will pay handsomely.

It is, however, the herd of Holstein-Friesian cattle with which our readers will be most interested, particularly as this is built up of choice individuals. The royally-bred bull, Count Mink Mercedes, holds premier position at the head of the herd. He was bred by Messrs. Smith Bros., Churchillville, and sired by their Mink Mercedes Baron, which won first at Toronto in 1888, 6-11 at the Provincial in London in 1889, and carried the sweepstakes at the same show, while he is equally well bred in producing lines. Belle of Orchardville, the dam of Count Mink Mercedes, gave 1,200 lbs. of milk in thirty days as a three-year-old, 54½ lbs. in one day, and 5,083½ lbs. in five months. She won first at the London Provincial in 1889, and the diploma as the best female of the breed; she also won first as a three-year-old at Toronto. Count Mink Mercedes, therefore, comes honestly by his grand individuality, and will be found a hard nut to crack at the next Industrial, should he be forwarded there this autumn. In fact, we consider him one of the best bulls of the breed we have yet seen.

The cows are also a grand lot, and have evidently been selected from a high standpoint of utility, as size, quality, and high milk production are all embraced in their make-up.

Of the five which were first purchased in founding the herd, we were first shown the six-year-old cow, Aaggie Gem and. She was bred by Messrs. Yeomans & Sons, New York. She is well bred in Aaggie blood, is a cow of great substance, and is a heavy milker. A heifer of hers of last July, sired by the stock bull already mentioned, is equally promising. Lady Wedo 4th was bred by Mr. W. M. Sexton, Holly, Michigan. She is a cow of large scale, and her

record of 48 lbs. of milk per day as a two-year-old gives an idea of what she is to-day. She has also been a good breeder, as her handsome two-year-old heifer and fine bull calf attest. Rosalin Bonheur was bred by Messrs. G. D. Seeley & Co., Bay City, Mich. Her dam is Rosa Bonheur (imp.), which has a milk record of 17,406 lbs. of milk as a two-year-old. Rosalin Bonheur is a large, heavy cow of neat quality. She has a bull calf that is worth looking after, if size and milk production are the object. Bixx Funny and, bred by Mr. N. H. Nolmes, Holly, Mich., is another grand milker. This cow has already produced three heifers which are exceedingly promising. Both sire and dam are from imported stock from Holland. She has a milk record of 5,548 lbs. in 180 days, and has given 56 lbs. of milk per day after milking seven months. The six-year-old cow, Annie B. and, was bred by Miss Abbott, Lapeer, Mich. She has a two-year-old record of 59½ lbs. per day. She also gave 1,672 lbs. in one month, and 7,915 in six months. She is a large cow that looks like business, while a yearling bull of hers should be at the head of some herd, bred, as he is, in such high-producing lines.

The herd now numbers twenty-one head, with some five bulls for sale, and as they are all sired by Count Mink Mercedes, out of exceptionally good producing cows, they are worthy of the attention of those wanting bulls of this breed.

## Berkshires, Cotswolds, and Jerseys at Messrs. J. G. Snell &amp; Bro.'s.

Many years of prize-winning, frequently repeated importations, and a reputation for breeding the highest class of Berkshire are principles which have placed Messrs. J. G. Snell & Bro., Edmonton, Ont., in the front rank among the Berkshire breeders of this continent. It is not necessary, however, to dwell upon past records, for it is doubtful if, in any previous year in the history of the herd, there could be found the grand material which it now contains.

No less than six wonderfully good boars have been in use, all of which have been first-prize winners, and many of which are likely to repeat the honor before the coming campaign closes. Star One, that won first in the aged class at the last Industrial show, is among these. This was the only place at which he was exhibited since his importation. He will now be retained only for breeding. He was bred by Mr. J. P. King, Wallingford, England, and belongs to that gentleman's celebrated Ruby family. Those who saw him will remember what a lengthy, good one he was. He has wonderfully heavy bone, and is particularly wide behind, with exceptionally good hams, while in character he lacks nothing.

Lord Ross won first for his owners in the next class last year, and first the year previous in the class under a year. He is a good one to-day. He was sired by Messrs. Snell's Enterprise (imp.), his dam being a descendant of Ruth (imp.), of a family which are contributing the most successful prize-winners of the day.

Regalia, a year younger, is a capital pig. He is a thick, heavy, and long pig, that weighed 540 lbs. at the last Industrial, where he won first prize under the year. He also, is by Enterprise, his dam being Lelia, a Moulsof sow by Ruler, also a first-prize winner.

Rosebery is another good one, and properly bred. He is by Royal Brown, while his dam is Royal Lady, which we shall mention below.

Baron Lee 4th, however, is the star of the company, and is, without doubt, the best Berkshire boar we have seen for years. He was bred by that noted breeder, Mr. N. H. Gentry, Sedalia, Mo., and is from stock purchased from Messrs. Snell. He was sired by Mr. Gentry's most noted boar, Longfellow, while his dam is a sow by the late Mr. Arthur Stewart's noted Lady Kingscote family, which, together with his grandsire, Charming Duke, was purchased from Messrs. Snell. Royal Charming, the dam of Charming Duke, was a most successful prize-taker, and was sold by Messrs. Snell at \$250, while Minnie Lee, the imported sow, the founder of the family, is considered by Messrs. Snell to be the best sow they ever imported. Baron Lee has all the qualifications that are now being sought after. He weighed 602 lbs. at fourteen months old, and yet is as light on his feet as a pig weighing 200 lbs., while in smooth finish, length, and depth of rib and superb character he is unexcelled. Along with the capital class of sows in this herd, he should prove of untold benefit to Berkshire breeding interests.

Although the boars just mentioned are high class, yet the sows are equally good. Such is Royal Lady. She won first in the aged class at the last Industrial, and she and four pigs of her last spring's farrow carried the family prize for best sow and four of her progeny. She was sired by Royal Winner, which, many contend, was the best English-bred boar that ever was brought into this herd. As his name implies, he won first at the Royal English Show, the year he was imported, in the class under eighteen months.

Lady Oxford, daughter of Royal Lady, by Enterprise (imp.), is also a grand one, that may prove a strong competitor, although the matronly character of the mother will doubtless carry many points in her favor. A sister of the boar Regalia, of the same farrow, that rejoices in the name of Bubble, looks, just now, like a heavy weight competitor for the butters in the yearling class. There are plenty more of good ones which we must of necessity pass by, but they will be worth looking up at the next autumn shows, or at home by those visiting the herd.

Cotswolds are also in a flourishing condition, and look as though they were in preparation for the coming campaign. Some forty shearing rams have been wintered and are now awaiting customers, while the lamb crop comes to hand in good shape and is progressing favorably.

A neat, good Jersey herd, that are contributing a goodly supply of gilt-edged butter for Toronto customers, look like business. These consist, chiefly, of Jersey Cattle Club cows and heifers of popular strains, in which may be found cows in milk and heifers in calf, by such sires as Mighty Dollar and Jenson's Dollar, both highly bred in producing lines and popular strains.

#### Mr. John Pulfer's Jerseys.

The farmers in the vicinity of Brampton have learned to prize the little butter cow, as the Jersey is familiarly styled. For this two reasons may be ascribed. First, Brampton's close proximity to Toronto market insures a paying demand for good butter, and, secondly, Jerseys were sufficiently early introduced to prove their superiority for this class of dairy work. Among those who early found the profitability of Jerseys was Mr. John Pulfer, who has kept a nice herd for many years, although he complains that buyers will come and persuade him to part with those he feels that he ought to keep. His present stock bull is Yankee Pogs, by that highly-bred St. Lambert bull, One Hundred Per Cent., while his dam is Yankee's Dream. This bull has every appearance of getting performers himself, and his high-class parentage insures it.

Mr. Pulfer has some choice heifers by the King of Peel, a bull which he contends did him great service. He has a lot of handsome Jersey Cattle Club cows and heifers in milk worth looking up, also a few not registered which he keeps on hand for sale.

#### Pleasant View Tamworths.

There is probably no county in Ontario where a more systematic plan of winter-feeding swine is practised than in Waterloo. For this purpose pigs must be easy and quick feeders, or they will not pay for the food consumed, neither will fall pigs attain weight or finish to insure a sale before the busy work on the farm commences in the spring. It will be seen how necessary it is for those engaged in this work to be able to procure such pigs as suit the requirements of the trade.

For this purpose crosses are much in demand, and the Tamworth and Berkshire crosses have found many advocates as filling the bill for this kind of hog, and this fact has induced many farmers in that locality to breed purebred Tamworths. Among these is Mr. E. H. Kolb, whose farm is intersected by the Grand Trunk Railway a short distance east of Berlin. Mr. Kolb now has a good-sired herd of this breed, with the imported Boar Birmingham Hero, bred by Mr. John Newman, Cliff House, at the head of the herd. The sows are chiefly of the breeding of Mr. John Bell, Amber, and Caldwell Bros., Orchardville. From the latter herd the sow Brandy Banks Lucy, by Roland, was procured, and a useful sow she is, that has had a good many younger sows that have been retained in the herd. Altogether, several brood sows are kept, and it is Mr. Kolb's aim to have younger sows ready for mating also on hand, to supply customers with such material as they may require in this line.

#### Mr. Gibson's Jersey Sale.

The offering of Mr. Richard Gibson's small but choice herd of Jersey cattle did not attract as large a company of buyers as might have been expected. Eight animals had been catalogued, but only four found purchasers, as follows: Ballony, dropped July, 1888, Bruce Cornell, Delaware, \$47; Belvoir Pei, dropped March, 1889, Capt. Rolph, Markham, \$500; Pink Fleur de Lis, dropped August, 1893, Charles Egan, Petrolia, \$62; Agnes of Glen Duart, dropped January, 1892, A. T. McCartney, Dunnville, \$122.

#### Messrs. A. Telfer & Sons' Southdowns.

A short drive from Paris brought us to the farm of Messrs. A. Telfer & Sons, who generally forward a neat flock of Southdowns to the leading exhibitions. Since our last visit several important additions have been made which should assist in building up the flock. A ram from the celebrated flock of Mr. Henry Webb, of Abraham, has done good service, which one would expect, for he is a sheep of the proper type himself. There is also another imported ram from the Ellis flock that has left some nice things in the flock. He is of slightly different type, and suits part of the flock nicely.

The ewes have been chiefly selected from such flocks as Messrs. Coleman, Ellis, and George Jonas,

and a neat, good lot of shearing rams and ewes they have bred, while this year's crop of lambs are exceedingly promising.

## Veterinary.

### Joint Disease of Foals and Other Young Animals.

By PROF. PENNICKY, in the Journal of the Royal Agricultural Society of England.

(Continued.)

On post mortem examination there is generally discovered evidence of the disease having resulted from affection of the navel. Though usually open, this may be found healed up on the outside. On the inside, the vessels frequently contain very dark blood, and unhealthy, sometimes putrid, matter, and about the end of the cord abscesses may have formed. In calves and lambs, most commonly through the veins, and, in foals, through the arteries, the germs have been distributed to various parts of the body, and, becoming arrested in some, set up inflammation and formation of matter there. In all very young animals, the joints would appear particularly favorable to these processes, and in animals dead of this affection are found, in and about the joint sacs, collections of matter, and evidence of destruction of essential parts of the joints—the lining membrane which secretes the "joint oils," the cartilage covering the ends of the bone, and the bone itself. Sometimes the quantity of matter is very great, and, bursting through the structures enclosing the joints, finds its way into the sheaths of the tendons, etc. Any part of the body may give evidence of a similar process; the lungs, the chest cavity, the liver, kidneys, the glands, the cavity of the abdomen, and the brain are common seats of abscesses.

The treatment of contagious disease involves the consideration of curative and preventive measures. Clinical experience and the nature of this affection tell us that curative treatment is not hopeful. After entrance of the poison into the system, despite the adoption of all known agencies, a large proportion of the affected will die (of lambs and foals probably more than 60 per cent.); while of those which survive many will only drag on an unprofitable existence. Treatment of such entails much trouble and expense, and rearing is rarely economical. If the subject be a lamb or calf, the constitution is usually so affected that only a poor specimen is produced; if a foal, in addition to the foregoing, the permanent damage to the joints often so interferes with movement as to render the animal unsightly and useless for life. A very small proportion, however, get the disease in a mild form, and make a tolerably satisfactory recovery. In the case of foals, it will be advisable to engage the services of a veterinary surgeon, for each individual case will call for treatment special to its circumstances. Occasionally, an unhealthy condition of the cord or navel and a collection of matter there may be discovered before the germs have become distributed through the system, when local treatment by removing diseased parts and killing the germs may avert further mischief. It may also happen that the secondary swellings are in a non-essential part accessible to the knife, when opening of the abscess, discharge of its contents, and disinfection of its cavity, associated with attention to the navel, may be followed by good recovery. This treatment, of course, calls for all the skill of the expert, and even with it such successful issue is not common. Once the morbid condition is thoroughly established in the body cure is not likely to be effected, while in most

of those cases in which the active process is overcome the subject remains an unsatisfactory animal, coming within the category of "piners."

Our preventive measures should commence by the adoption of any means at our disposal for avoiding the introduction of the germs into our studs or farms. Animals should not be carelessly brought into the valuable stud, flock, or herd from a place known to be affected with the disease, or without some kind of assurance as to their health and freedom from the power to infect. The production of an offspring healthy at birth is always a matter of importance, irrespective of this affection, but realization of the fact that want of developmental power on the part of the newly-born animal retards the proper closing of the navel, and that this is the common port of entrance of the virus, suggests that, in view of the disease, some additional importance attaches to the avoidance of conditions which interfere with the vital activities of the fetus before birth, and its retention in the womb during the full time proper to its species. The health of pregnant animals entails proper food, regular feeding, exercise, and sanitary surroundings, and the retention of the fetus demands the avoidance of all excitement and of communication with aborting animals. Inasmuch as neglect of any of these matters may result in the production of an offspring more than ordinarily susceptible to joint disease they should not be disregarded, but that they are not of the highest importance appears evident from the fact that the disease is most common and most troublesome when these best sanitary conditions are believed to be most closely observed. They suggest links for the chain of preventive measures, but should not divert attention from the immediate cause of the contagium, which, in spite of their adoption, will, in many cases, force an entrance and establish the disease.

In principle there should be no difference, but as ewes are dealt with in flocks, and mares and cows individually, it may be desirable to refer to the means of prevention separately. On the first appearance of the malady in a flock, even if only one lamb be affected, it, with the ewe, should be immediately isolated, and all pregnant ewes, and ewes and lambs, which have been in the same fold or place, should be, where practicable, removed from the situation and maintained separate from the in-lamb ewes which have not been in the infected fold or pasture. The navels of all lambs should be washed in some disinfectant solution. Straw, manure, and other matters in the affected fold should be disinfected, and a fresh lambing fold selected as far as possible from the first. The shepherd and everything used by him in connection with lambing should be carefully disinfected. After this, it may be advisable that he should confine his attention to the affected part of the flock, while a fresh man, who has not been in contact with the diseased lambs, is told off to the remainder.

Fortunately for the carrying out of these measures, joint disease often makes its appearance in the earlier born lambs. When strict attention is paid to them, the spread is quickly arrested and much loss averted. With the idea that the disease in lambs depended on insufficiency of lime salts in the food of the ewe, amongst other preventive means heavy top dressings of lime have been made, and in some cases in the following season the flock has been free from the disease. It cannot be admitted that absence of lime may lead to the development of the disease, but it is quite con-

ceivable that heavy dressings of it may prove deleterious to germs distributed by affected lambs, and thus prove a useful measure.

The smaller number and greater individual value of foals admit of the expenditure of more attention on individuals, and without a proper appreciation of, and allowance for, this disease, the greater the care the more favorable the circumstances for its spread. Joint disease usually occurs amongst foals whose dams have been stabled, and rarely amongst those born and remaining in the fields. In view of preventing the malady, it cannot be deemed good practice to keep one box specially for foaling all mares. For if, by accident, the box become contaminated, every subsequent occupant will be liable to infection. If possible, mares should be placed for foaling in thoroughly disinfected, separated boxes, in which it is arranged for them to remain with their foals some considerable time. When this is not possible, after each parturition the foaling-shed should be cleansed and disinfected, the manure and straw removed, the drains flushed with disinfectant, and fresh bedding supplied. If the disease has existed on the place, it will be well to sponge the passages of mares before parturition with a tepid, harmless, disinfectant solution, and it is essential that the attendant at the foaling and all matters which may be used in connection with the act be clean and free from infection. Immediately the foal is born, after having washed the cord and navel in an antiseptic solution, the veterinary surgeon, or some one acting under his instructions, should tie the end of the cord with an aseptic ligature. When this is done, a non-irritating disinfectant powder may with advantage be dusted on, and the navel sopped daily in a disinfectant solution, afterwards being dusted with the powder. The details of this treatment are for the consideration of the person attending the case. The tying of the cord after birth has been adopted with much apparent success in different studs in which this affection formerly caused much trouble. It is a simple operation which appears to have much to recommend its general adoption, even when there is no specially appreciable risk of infection with the virus of joint disease.

On the first sign of a foal being affected, it should, with the mare, be isolated, and attended by a groom prohibited from coming in contact with other mares and foals and in-foal mares. The box, manure, etc., should at once be disinfected. The carcasses of the diseased should be disposed of without delay, in accordance with these principles. Unnecessary handling of foals and mares before and after foaling should be avoided. Though we have not evidence sufficient to admit of the assumption that the exciting cause of abortion in mares is identical with that of joint disease, our experience leads us to suggest that mares which have aborted, whether their offspring be born living or dead, should be regarded with a degree of suspicion, and removed from the healthy, whilst their genital organs and any discharges—and, if the foal lives, the udder—should be subjected to disinfection. In situations where "joint disease" has existed, after the foaling season, all contaminated places should be, as far as possible, purified by repeated cleansings and disinfecting, a consideration for attendants on parturient mares and foals, as well as materials used about them season after season not being omitted.

The foregoing measures apply equally to the prevention of joint-ill in calves, among which it is not so often met with.

## The Farm.

### The Drouth.

The hay crop cannot fail to be very short in this Dominion this year, and the same reports come from Great Britain, where cold and dry weather have also told their tale. Pastures, too, are likely to be dried up unless we get rain soon.

In view of the likelihood of pastures being short, it will be in order for farmers to see if they have a sufficient quantity of soiling crops sown to supply the coming needs of their stock. If they have not, there is still time for them to supply any deficiency. It is not yet too late to sow corn or millet for cutting green. Although these will not do as well as the same sown earlier, yet they will provide considerable fodder at a critical time. The chief trouble will be to get the seed to start growing, unless we have rain. This, however, we are certain to get before long, and, if the seed is in the ground at the time, it will soon germinate.

### The Cultivator in Dry Weather.

In dry weather the constant use of the cultivator between the rows of hoed crops is the only substitute for rain that the farmer can use, unless he is in a position to irrigate his land. If the cultivator is run frequently between the rows, taking care not to allow it to run too deeply, the fine tilth of the soil on top checks the evaporation from the ground and retains the moisture for the use of the growing crops. Any one can test this for himself by cultivating certain rows and leaving others untouched. He will find that the cultivated rows will go on growing, while those untouched will remain stationary, or even die, should the drouth be prolonged. This fact is recognized by all progressive farmers.

Whenever possible, then, in odd hours, keep the cultivator going. The continued drouth through June has checked every crop in its growth. Hay and grain crops cannot be improved much now. Do what you can to make your hoed crops grow.

### Crimson Clover.

Crimson clover seems to have succeeded very well in some of the states of the Union, if we may judge by the reports in American agricultural papers. From New Jersey, Pennsylvania, New York, and other states, very favorable reports have come as to its ability to pass through the winter unharmed.

In Canada, however, it has yet to prove itself a success as being able to stand the winters. From some parts we have fairly favorable reports, but from others the reverse. When sown in the spring at the Experimental Farm, Guelph, it has not yielded well, and has invariably died out during the succeeding winter. This last fall, Mr. Zavitz, experimentalist, seeded down two acres of fall wheat ground with it after the wheat had been harvested. The seed was sown early in September, and germinated well. The young clover made good growth during the autumn, and was about two inches high when the winter set in. The crop, however, was almost completely killed out during the winter season, the plants being but few in the spring; in fact, over the greater portion of the surface no plants were to be found, and the crop may be considered a failure in this experiment. It is Mr. Zavitz's intention, however, to collect

seed from as many of the plants as he can, and he hopes by continued cultivation of crimson clover to increase its hardiness, so that it will, in a few years, stand our winters.

From this it will be seen that farmers will have to go slowly in sowing crimson clover seed in this country. It is quite likely that the clover may get acclimatized in time and be able to stand the winter, but, apparently, it lacks that desirable feature at present. It is to be hoped that it may soon become acclimatized, as it seems to be a very valuable pasture and fodder plant wherever it can be safely grown.

### Reaping the Harvest.

While the harvest is generally great relatively, the laborers are few. At least it is usually relatively great in happy Ontario. To make sure that the assumption just made with reference to the greatness of our harvests is certainly correct, we have only to compare the statistics of Ontario with those of the other provinces, and also with those of the states of the American Union. But, however great may be the harvest, the laborers are always few; hence, the reaping of the harvest oftentimes becomes a weary work, and oftentimes it is attended with much loss from the farmer's sheer inability to cope with it as fast as the grains ripen in close succession.

At such a time, fortunate is the man who has one or more stalwart boys to second his efforts, or who has sufficient hired help of the right kind to assist him in his work. And fortunate is the servant who at such a time does his best to save his employer from loss. Such a man is sure to be in demand. No matter who may be thrown out of employ in slack times, he will get work. And fortunate is the farmer who has made sure that his machinery was in order before the harvest began, and who has laid in all his supplies, as of wine, oil, and tools.

It is certainly greatly important that grain should be cut in time. And the importance of so cutting it is enhanced by the feeding value of the straw. Straw as a food factor must continually increase in value with increased attention to live stock; hence, the importance of securing it in good form is very considerable. When the grain is quite ripe, the feeding value of the straw rapidly decreases. It becomes woody, a large proportion of it is indigestible, and it loses rapidly in palatability. Therefore, when the straw is wanted for food, great care should be exercised, and every effort should be made to have it cut on time, that is to say, as soon as the straw has turned yellow beneath the head.

Of the different kinds of straw, that of peas, probably, suffers the most from getting over-ripe. Peas should, if possible, be cut when the lower two-thirds of the pods are ripe. The upper one-third is possessed of but little fruitage power. If the cutting of the peas is delayed until all the pods are ripe, then there is very great loss in the feeding of the straw. Oats also should be cut just on time, if the straw is to retain its feeding value. When thus cut, the food value of oat straw is considerable.

Wheat straw is generally used for litter, and therefore it may be allowed to mature more completely than that of oats without taking harm. With wheat cutting the chief thing to be guarded against is overripeness, to the extent of producing a loss of the grain from shelling. Rye can be allowed to go longer

without being harvested than wheat. It does not shell easily. But it is always important to have the rye cut and out of the way before the wheat cutting comes on. Barley will suffer loss to a greater extent than any other grain from delay in cutting it. It discolors very quickly. The heads turn down and break off. If, therefore, a barley field is allowed to become overripe, the loss from the cause named will soon be very great.

When grain is cut and put in shock, it is a safe rule to haul it in as soon as it gets dry. But some kinds of grain can stay out longer than other kinds without injury. Peas suffer most quickly, so far as the straw is concerned, and barley suffers the most quickly in the grain. Rye and wheat may receive a passing shower with but little injury, but the aim should be always to take grain into the barn as soon as it is ready, and not to delay it one day for other work. If several kinds of grain are out at one time, draw those first which take injury the soonest.

Nowhere is the advantage of a mixed husbandry rendered more apparent, when viewed from the standpoint of labor, than in harvest time. When properly adjusted the crops will follow each other in a succession, so that the farmer is in a much better position to do all his work at the right time than if he is sometimes crowded, and on other occasions has not quite enough to do. He can then cut his crops at the right season, and be able to do so is certainly a very great advantage.

### Cleaning Hoed Crops.

The importance of keeping hoed crops thoroughly clean, down to the very end of the season, cannot very well be overestimated. With reference to cleaning hoed crops, nearly all farmers begin well. There is usually but little to complain of on the score of weeds until the busy season of harvest crowds on. Then the weeds are much prone to take advantage of the partial cessation of cultivation in the fields.

When hoed crops are not kept clean, they fail to fulfil one important end for which they are grown, viz., the cleaning of the land; nay, they tend to the opposite result. We cannot well imagine more favorable conditions for the extension of the root growth of creeping perennials, as, for instance, the Canada thistle and couch grass, than those furnished by soils in which hoed crops grow, unless sufficient attention is given to the cultivation to destroy these plants; and when annuals are allowed to come up and grow undisturbed after the harvest labors begin, they grow apace. They become giant specimens, each of its kind. The conditions are favorable. The soil is mellow. It is moist, and they have lots of room to grow. When they ripen their seeds, these are showered around by the wind on every hand, and they are strewn hither and thither by the harvesting of the crop. It may truly be said, therefore, in reference to such a field, that its last condition is worse than the first.

Every effort should, therefore, be made to keep abreast of the weeds. There are usually some intervals in harvest time which can be profitably employed in the cultivated crops. There are times after showers, and, it may be, while the atmosphere is too moist to admit of harvesting with profit; these seasons can be well employed in the fields where hoed crops are grown.

Where cultivated crops cannot be kept clean, they should not be grown. It may be that present gain may arise from growing hoed crops which are not clean, but in the end it

will not be so, where the cultivated crop becomes a fine seeding ground for noxious weeds. These will grow in succeeding crop and with unfailing certainty, and they will bring down the profits accordingly. It is important, therefore, that such crops shall be kept scrupulously clean, and the farmer should only think of growing as much of these as can be grown upon the lines recommended.

Lambs can be utilized with advantage in cleaning late weeds out of a corn field. If, as soon as they are weaned, they are turned in amid the corn, they will soon dress out the weeds that may be found there. The corn will furnish them shade, and they are not likely to find out the ears of corn, since they are high up on the stalk. Old sheep would probably learn about the corn cobs, and would begin breaking down the corn.

This weed question requires continued watchfulness, and much persistent effort. Even when cultivated crops are well managed, some weeds are likely to escape notice, and to raise their vigorous heads high over the surrounding crop. It is well, then, to go through the crop once, some time after cultivation has entirely ceased, and to destroy all these. It is a great matter that we in Ontario are able to grow cultivated crops to so great an extent, because of the influence which such cultivation exerts in cleaning the land. We here can have no idea of the extent to which weeds prevail in the grain crops in Manitoba, and in the western and north-western states, where hoed crops do not receive relatively anything like as much attention as is given to them with us.

And it is well never to let the idea get a foothold in our minds that hand-hoeing, to some extent, cannot be made to pay. To be sure, the chief portion of the work must be done with the cultivator, but the cultivator cannot do it all. The finishing touch in many kinds of cultivated crops must be given with the hoe. Just as soon as the idea becomes firmly rooted in the minds of the farmers that farming can be all done while sitting on the seat of an agricultural implement, just so soon will that neighborhood become smitten with the taint of decay. They will not prosper. Their farms will soon bear evidences of that sloth which is the sure forerunner of the ever-devouring mortgage.

### Humus in Light Soils.

Plenty of humus in the soil should be the watchword of every farmer. It is one of the grand essentials of success. It is important in cultivating heavy as well as light soils, as it renders them much more easy of tillage. In this we find one of the strongest reasons for laying down arable lands to pasture, or for sowing them with grass for hay. But humus is especially important in light soils for the reasons given below.

In the first place, it brings fertility to them. It also adds to the fertility of heavy soils, but light soils, as a rule, are much more in need of fertility than heavy lands, since they naturally contain less. It may not in itself bring fertility to light lands if the food which produces the vegetable matter which is turned under is gathered within the cultivable area. But if legumes, for instance, are grown upon the light soil, as peas or clover, some of the plant food will be brought out of the air and some out of the sub-soil. But, in any case, the vegetable matter grown and turned under brings food for the crops that come after, in a form that is easily available. In the second place, it brings moisture. When vegetable

matter has been plowed under in light soils it tends to fill the interstices in the soil, and in this way the avenues for the filtration of water downward are hindered. Vegetable matter, too, has much power to retain moisture. When there is a goodly supply of it in a light soil, and rain falls on it, the rain is absorbed by the vegetable matter to a far greater extent than it would be if the vegetable matter were not present in the soil. The moisture thus held is available for the sustenance of the roots of the crop which may be growing there.

Humus also lessens evaporation. In sandy soils, destitute of vegetable matter, evaporation is rapid. In the first place, the air more easily penetrates the large interstices between the particles of the soil; and, in the second place, the larger interstices allow the ground

that land which is heavy, for it is naturally stronger than the light soil.

A third way is to grow green crops, and plow them under. These may be various, as clover, buckwheat, peas, and mustard. Some of these are more bulky, and some of them are less so than others. The more bulky of these will bring the most moisture, but some are more capable of bringing fertility. This is true of the legumes, and to grow these green crops it is not necessary, as a rule, to miss a crop of grain or of something else. Light soils are what may be termed quick soils. They push vegetation up rapidly; hence, when one catch crop follows another, these may furnish a large amount of humus the same season, and, while the green crop is growing, it prevents nitrates from leaching out of the soil.

should not be burned, it is otherwise only used for litter.

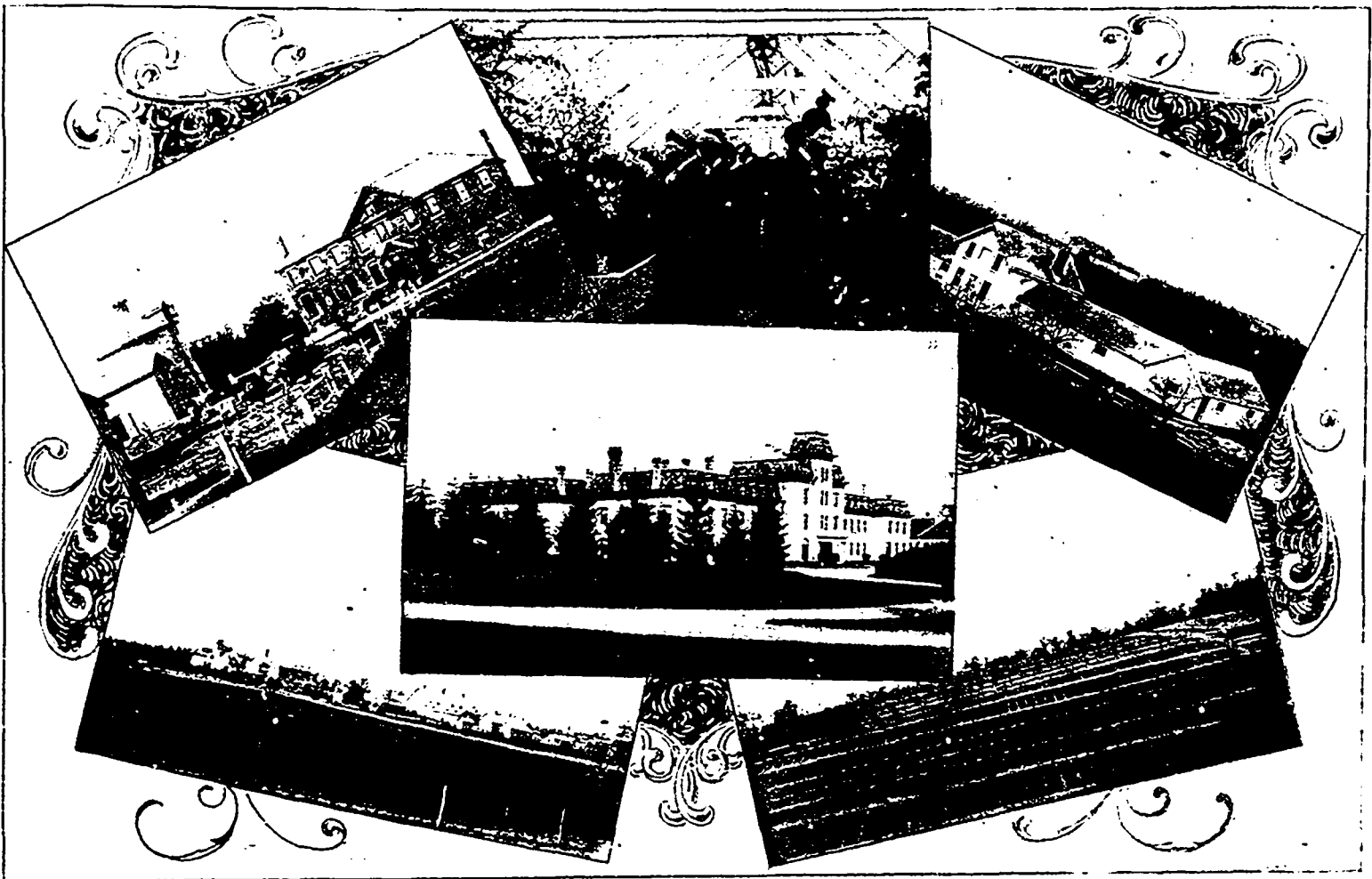
By the second method, flax is chiefly grown for the fibre. It is sown with much care when thus grown, with reference to an even distribution of the seed in the soil. But, of course, in such instances a fair crop of seed may also be obtained. However, the seed is regarded as a secondary consideration.

By the third method, the crop is grown for both seed and fibre. Some hold to the view that first-class fibre and heavy yields of seed cannot be obtained from the same plants, but this does not always seem to hold true, for it is a fact that in some parts of Belgium, where flax is grown in great perfection for the fibre, it also produces good crops of seed.

Ordinarily, deep and well-cultivated soils are considered the most suitable for the culti-

deep fall plowing early in the season, followed by surface cultivation in the spring until the sowing of the flaxseed. The weeds will thus, to a considerable extent, be removed from the surface soil. In Farmer's Bulletin, No. 27, issued by the Department of Agriculture in the United States, fall plowing is advocated, followed by two plowings in the spring. But this would not prove nearly so helpful in destroying weeds as the other method of preparing the land as given above. Nor would it be so favorable to the quick growing of the flax. And on prairie soils the two plowings in the spring would be decidedly injurious to the growth of the flax in a dry season.

The season for sowing flax will, of course, depend upon the climate. We should not be nervous about getting it in too early. As with Indian corn, it is more important to have the



Some of the Buildings at the Ontario Agricultural College, Guelph.

Growing Flax.

moisture to escape more rapidly. It is easy, then, to see the great mission that humus fulfills in light soils.

But how shall we get plenty of it in such soils? In the first place, by growing grasses frequently upon them. It is usually easy to get a good catch of grass on light soils, when the weather is not very dry in the summer season. But they do not sustain themselves as in heavy soils, and for that reason they should not be kept long without breaking them up. But they should be renewed frequently.

A second mode is to add barnyard manure, and to be careful to apply it as fresh as possible. When the manure is applied fresh, the vegetable matter composing it is capable of retaining more moisture than when it is applied in a decomposed condition. If any land on the farm has to go without manure, let it be

The flax industry is one of no little importance in some parts of Ontario, and in Manitoba growing flax is likely to come more and more into favor, owing to the great adaptability of that province for producing fine crops. In Ontario the crop is grown for the fibre as well as for the grain, but in the Northwest it may be said that it is only grown for the grain.

Flax culture is found in three distinct forms. The first has reference to growing it only for the seed. In this form it pays well in some instances, more especially when grown on rich prairie soils, which can spare a portion of their exuberant fertility. But there is an element of waste in such instances, in the burning of the straw, and, even though it

variation of flax. Dark, rich, loamy clays, and heavy clay loams, well drained, are among the soils named in the reports of the United States Department of Agriculture as being the most favorable to the cultivation of flax. But, without any doubt, the rich spongy soils of the prairie are also well adapted to the growth of the same. In dry, calcareous soils the stalk remains short, while in those of a heavier texture it is lengthened, but at the expense of the fine quality of the fibre, so that where the fibre is an important object only clean land should be chosen for the production of the crop.

The preparation of the land for flax should be very thorough. A fine seed bed is indispensable to secure the very best results. In order to obtain the cleanness of soil necessary in growing the crop, we would recommend

ground in fine condition, and thus secure a quick growth, than to sow early and have the crop grow slowly, as it struggles with weeds for the mastery. A very good time to sow is when the leaves of the trees begin to unfold. To secure fibre of the best quality, hand sowing is considered preferable, but when the seed only is wanted, it is better probably to use the drill. When the fibre mainly is wanted, drill sowing is apt to produce a very uneven size of stalk; that is to say, some of the stalks will be fine and some coarse, as the plants grow closely in the line of the row. But in dry prairie countries drill sowing will secure a better germination.

It will be readily apparent that flax cannot be grown successfully for the fibre from a poor quality of seed. Therefore, when the fibre is an important end sought, only the best quality



of seed should be used. Seed chosen promiscuously from flax grown for the grain only would not answer for the production of fibre. It would want choice seed carefully selected, and from a crop that had been grown for the fibre. For live stock uses it is becoming common to grow a little flax along with certain kinds of grain that are to be fed upon the farm. These include oats, barley, and oats and peas grown together. But when thus grown a very small proportion, indeed, of the flax is necessary. The idea of growing flax thus is to secure a more perfectly balanced ration at a minimum cost, and with but little trouble.

### The Seed Bed for Winter Wheat.

The success or failure in growing a crop of winter wheat may depend in some instances on the character of the seed bed when the seed is deposited in the soil. The importance, therefore, of giving the closest attention to this question will be apparent.

Ordinarily, the conditions of the seed bed most favorable to growth can be more easily obtained when the land has been plowed some time before the sowing of the crop. Opportunity is thus furnished to cultivate and harrow with sufficient frequency to secure a fine pulverization of the soil, and enough of moisture to insure germination when the seed is sown.

Take, for instance, a summer-fallow. In any case it will be plowed at least two months before the sowing of the seed, and in some instances fully four months before that date. Now, if it be worked upon the surface, a fine pulverization is secured long before the arrival of seedtime. With the increasing fineness of the soil on the surface comes increasing moisture, for the finer the surface soil is, and the more frequently it is stirred, the more surely will the ground moisture be retained. It follows, therefore, that where sufficient cultivation has been given to the soil on the surface, even in a dry season, there should be sufficient moisture in it to start the grain at seedtime. But it may be well to state that in a wet season there is a danger in handling stiff clay soils thus. If, when the surface is finely pulverized, a heavy rain should fall, there is liability not only of too much impaction of the soil, but also of an incrustation of the surface that would be peculiarly hurtful to the growing crop, if the ground became thus impacted and incrustated soon after the sowing of the seed.

But over-pulverization is the exception rather than the rule. For every instance where it is found a score of instances may be found in which the pulverization is insufficient. Plow land for winter wheat but a short time before sowing the seed. If it is dry and cloddy, and if at the same time the season is dry, no amount of labor spent in pulverization will put that land in as good a condition for receiving the seed as though it had been plowed much earlier and prepared as described above. Even though it should be finely pulverized, it is lacking in moisture, and, if lacking in moisture, the seed cannot fare well.

When seed is sown in finely pulverized soil, and moist withal, it germinates at once. The moisture causes germination, and this process is facilitated by the close adherence of the fine particles to the seed; that is to say, the air is not allowed to penetrate the soil too freely. The spaces between the particles of the soil do not admit enough of air to cause the soil to dry out, and yet there is sufficient circulation of air between the particles in the soil to enhance

germination. When, too, the first tender rootlets push out in the soil, they can easily take up enough food when the pulverization is fine. But when the opposite conditions prevail, the land near the surface dries out too quickly, by reason of the evaporation which continually goes on, and the young rootlets of the plants are much restricted in the area of the feeding ground in which they gather their food.

If, therefore, winter wheat is to be sown on the bare fallow, the latter should not be plowed for some time previous to the sowing of the seed, but it should rather be stirred only on the surface. And if wheat follows peas with the land in a clean condition, surface pulverization here also will be preferable to plowing. If wheat follows clover, the aim should be to plow the land as soon as possible after the first cutting of the clover.

So long as winter wheat is grown, and some will always be grown in Western Ontario, the aim should be to grow it in the best possible form, and under the best possible conditions. Unless the crop has made a good growth in the fall, it is not likely to succeed well, as the risk from winter weather is considerable. Every effort, therefore, should be made to give the wheat a good start in the fall. It may happen now and then that the autumn growth will be excessive, but this will not occur very frequently—indeed, it seldom occurs. And it is an important point to sow winter wheat with the grain drill. This enables it to stand the winters more perfectly, as it does not heave so easily, nor is it so easily injured by intensely cold weather.

### Winter Rye as a Pasture.

The great value of winter rye as a pasture is all too little known. In Ontario and other parts of the Dominion grasses grow so luxuriantly that the want of what may be termed artificial pastures is but little felt. But in sandy sections there is much danger in dry seasons that there will be failure to get a stand of grass. Under these conditions rye may be used as a substitute with much advantage the following season. And in other parts which are liable to be troubled with dry weather, as in regions far west, and where, at the same time, the winters are too cold to grow clover, rye may be used as a substitute for a shortage in the grass crop. Again, a pasture for swine may be wanted not far from the hog house, which for the time being cannot be obtained in any other way. Grass requires one season to become established. Ordinarily, when it is pastured during that first season, it is much injured for future use, whereas rye can be pastured after it has been but a few weeks sown.

Where the supply of pasture may be short from any cause, it may be supplemented by growing rye. The two may be made to alternate, that is, the rye and the grass may be pastured alternately, much to the advantage of both. In this way stock may be pastured which, under other conditions, would have to be soiled.

Rye is probably not quite so highly relished as blue grass, but all kinds of live stock will eat it readily. Milch cows will do well upon a rye pasture. Sheep also do very well upon it, but they require to be fed some other food at the same time if they are to be fattened on a rye pasture.

To get the best results from a rye pasture, it should be sown in August or early in September. It can then be pastured in the autumn, more especially when sown in August, unless

the season is exceedingly dry. But it should be allowed to get well rooted before winter. It will then stand the winter better than if it has only a delicate and feeble growth. On the other hand, it should not, under any circumstances, be allowed to joint in the autumn, otherwise it will not produce a good crop of pasture. In fact, it will be practically ruined for pasture uses. The same thing must be borne in mind in the spring. It should not be allowed to get far enough above the ground to form the ear, or its further use as a pasture will not avail. By keeping it well eaten down, it may be made to produce pasture for a lengthened period.

If pasture is wanted from a rye crop through the whole of the season, it may be obtained by sowing winter rye in the spring. When sown at that season it will readily spring up. It will be ready for pasturing a short time after it has appeared above the ground, and one of the great advantages of growing it thus is found in its inability to head out that season. When the weather happens to be dry in the summer, the rye pasture will continue to grow after the grass pastures have become dormant.

It may be asked, Why would not spring or summer rye answer the purpose better? For the reason that it would soon head out if not eaten close, and, after the normal season of maturing had arrived, it would grow more slowly. When winter rye is sown in the spring it is peculiarly helpful as a pasture for swine, in the absence of common red clover.

Another advantage of rye as a pasture arises from the fact that it may be made to provide a large amount of pasture the previous autumn, and it may then be turned under next year in time to grow another crop of something else. When thus managed, the land is made to produce abundantly within a short period of time, and the process is eminently helpful in destroying weeds, as the pasturing prevents them from making any headway, and the turning under, some time in the summer, very greatly tends to check their growth or to prevent their increase.

When sheep are pastured on rye, and grain or oil cake, or both, are fed at the same time, the results are very helpful to the land. It becomes improved in fertility. The same is true of the pasturing of the rye with swine. The droppings enrich the land, and in both instances the manuring is cheaply and advantageously done, for the manure is evenly distributed, and, virtually, without any outlay.

### Barn Building and Concrete Walls.

Permanently constructed and suitably arranged barn buildings are as necessary to the business of the farm as are properly equipped workshops to the manufacturer. Beef cattle cannot be properly fed nor dairy cattle kept to advantage in cold, dark buildings, neither can swine be fed during the cold weather with the hope of a balance in favor of feeding when the essentials of comfort and warmth are lacking, while the work required in attending stock is changed from a most disagreeable task to a satisfactory pleasure where comfortable quarters have supplanted the place of the old-time frame structures, which, as ordinarily built, are cold, foul, and as cheerless as possible.

It is not only the expense that ordinary masonry entails with its attendant breaking and dressing before each stone is ready to place in the wall, but the supply of the material is of itself a serious undertaking, even if this is to be found on the farm, and only those

who have spent weeks in hauling have any idea of the drudgery handling large field stone entails. But there are large sections of the most fertile part of the country where stone can only be procured by hauling long distances, while many a carload is required, if the railway company has to be the medium which is to supply the material, the cost for carriage being a serious item to add to the expense account.

It is at this point that concrete cement comes to the rescue, and supplies a want that in many cases has prohibited the building of anything but wooden walls.

In comparing concrete cement with ordinary masonry, it is necessary to be reminded that the walls built of the latter are usually from twenty to twenty-four inches in thickness in order to utilize field stone, and give space for the bond that masonry requires to insure sufficient strength; and when it is understood that a properly built concrete cement wall one foot in thickness is stronger than the ordinary stone work of the mason, the saving in the supply of material can be imagined.

Any one who has taken down a stone wall as usually built by a mason knows how easily a properly applied crowbar will work a hole through the best built wall, but a trial at a concrete cement wall will convince the most incredulous that in this case they have undertaken a much bigger contract.

In going our rounds among the stockmen we have seen many admirably constructed walls built with concrete cement, while we are so frequently asked questions concerning the reliability of this material for walls as well as for floors that recently, while in the vicinity of Queenston, we availed ourselves of the opportunity of inspecting the works of Messrs. Isaac Usher & Sons, a firm which is supplying farmers with most of the cement used for building purposes. After viewing their quarries, kilns, and mills, we were satisfied with the care that is exercised in the manufacture of their brand, and fully understand why Queenston cement has given such satisfactory results in the walls in which it has been used. Queenston cement is made from the natural rock, which is burnt and ground in its preparation, and no lime or foreign matter is allowed in its manufacture, consequently it is perfectly reliable, and, when mixed as directed, with the proper proportions of sand and gravel, forms a wall stronger and harder than the original rock itself before it is quarried.

Railway bridges and caissons subject to the more rigid government inspection have been built of Canadian natural rock cement, and time has verified the judgment that passed it, for it has been found in every case most durable, gaining strength the longer it stands. However, cheapness is one of the strong points in favor of cement, both for walls and floors. In the latter the material will cost something like two and a half cents per square foot, or less than the plank that would be required to cover the same amount of floor space.

In building a wall a barrel of cement will build a section one foot in width, one foot in depth, and twenty-four feet long, so that it can be easily estimated how cheap these walls may be built, while, as before stated, there is a wonderful difference in the quantity of material that has to be provided. This, together with the fact that coarse gravel will do when no stone can be had, is an incalculable benefit to those who wish to build comfortable buildings.

### An Aid in Unloading Hay with the Hayfork.

A correspondent of the *Wisconsin Farmer* mentions a good device for returning the hay fork into position when unloading in the barn. It is the invention of his fourteen-year-old boy, and is not patented. The opening for the hay in the correspondent's barn is in the eastern gable. The end of the track, within six feet of the other end of the barn, runs the rope through a pulley near a side door in the mow, sometimes used for putting in bedding by hand, and thence running east on the north side of the barn through a pulley fastened to a post set in the ground. The horse works on the north side of the barn, going east when the fork is loaded. Due east of the north side is set a stake with another pulley attached, and it is about fifteen feet farther east than the horse goes to carry the carrier to the rear end of the track. A half-inch rope in addition to the trip rope is attached to the hay carrier, and runs through the pulley at the stake, and is hitched to the singletree. When the horse returns to the place of beginning for another load, he pulls the carrier back by means of the light rope running through the pulley at the stake. This device has been in operation on the farm for some years, and it saves much vexation of spirit and blistering of hands. In barns where the horse goes away from the barn it will require another pulley or two, as the case may be.

For The Canadian Live Stock and Farm Journal.

### To the Young Men of the Farm.

Young men, I have not forgotten the land which gave me birth, nor the magnificent material which it produces in the form of sterling men and women. Canadians are frequently met with in this state, and I can assure you that, generally speaking, they are giving an account of themselves such as to make one feel proud of the relations of former time. Now, the success which follows the Canadian in this country is not accidental. It arises from a number of causes, among which are the following: He is usually a diligent worker from day to day, and during all the working days of the year. This trait alone, in this land of magnificent opportunities, would go a long way toward bringing a young man to the front. He is usually intelligent, hence, in the race struggle for supremacy, he has all the Anglo-Saxon endurance, with more than the average Anglo-Saxon sagacity; and, in the third place, to the diligence in business, already referred to, he adds the American sagacity, which is so quick to take an advantage of opportunity; in other words, he is more ready than the Anglo-Saxon, who comes directly from Great Britain, to adapt himself to the quick march of American progress. Wherever I have met with Canadians in this western world, I assure you that I have had reason to feel proud of my former countrymen.

The farmers of Ontario are a splendid class of men, and farming in Ontario compares well with the same in any part of the world. But remember, young men, it is the intelligence of the Canadian farmer which has placed him where he is, and, if he is to retain the vantage ground on which he now stands, he must do it through the practice of intelligent methods of agriculture. It is incumbent, therefore, on the young men of our Canadian farms to keep well abreast of the knowledge of the age with reference to agriculture.

Where shall such knowledge be gleaned? The channels are various. Some of it from agricultural books, some from the agricultural press, some from the great agricultural conventions of the day, some from the farmers' institutes, and much, very much, from the Agricultural College at Guelph. Horace Greeley was wont to say to the young men who were ambitious to rise, "Go west." This is not the suggestion that I would now make to the young men of the farm, but instead, before going west, take a regular course at the Ontario Agricultural College. It has turned out many good men, and what it has done it can do again.

But here I would drop a word of caution. The day was, and not long since, when young men who graduated in the third year course quite readily got situations in agricultural colleges on this side of the line. Without any doubt this result had its influence in drawing students. Now, young men, the day for this, I am convinced, has forever gone. I get letters frequently from young men in Ontario, who have graduated in the third year, asking if I will lend a helping hand in enabling them to get a situation in some American agricultural college, or at some experimental station on this side. Most assuredly I will, but it will not avail. The day for this has gone by. There is only one way now in which a Canadian can ordinarily get such a situation, and that is by taking his college course on this side of the line.

A few years since such situations could be obtained, as witnessed in the success of Creelman, Craig, Morgan, Linfield, Hutton, Hart, and others. The American colleges wanted men, and these had not been educated in sufficient numbers over here then. But it is not so now. A number of these agricultural colleges are now turning out excellent young men every year, and it is only natural that any people should give the preference to the graduates of their own schools when these are available. Take, for instance, what is termed the long course in agriculture at our university here. It covers four years after the course of the school of agriculture is completed, that is to say, it covers seven years in all. Now, when a young man has thus prepared himself, he is certainly more likely to be chosen to fill one of those positions than one who has given but three years to such preparation. Graduates are already going forth from the university here in the course under consideration, and they will so continue to flow from this institution in a continuous succession. And the same is true of other institutions in various states of this republic.

Notwithstanding, young men who are going to live by farming should take the third year's course. It will make better men of them. The knowledge which it brings to them is helpful, not only in the sense in which all knowledge is helpful, but it is helpful because of the more or less direct bearing which it has upon the work of the farm.

Agriculture furnishes a magnificent field for the exercise of the highest powers which any man may possess. Think twice, then, young men, before you leave it. Great problems are yet to be wrought out, and more especially in this western country, with its almost illimitable possibilities. When these problems shall have been wrought out, even in part, the competition from the central portion of this great continent will be keener than ever before. If Ontario, therefore, is to maintain the high position which she now occupies as an agricultural country, her

young men must carefully equip themselves for the work.

THOS. SHAW.

University Experimental Farm, St. Anthony Park, Minn.

### Green Manuring.

By JAS. MILLER, Brougham, Ont.

Green manuring is the plowing in of green crops in their living state, or green vegetables spread on the land for that purpose. This subject requires careful consideration on account of its importance to the farmer for many reasons, some of which we will now endeavor to make plain. The sap contains many compounds of nitrogen, which not only cause the rapid decay of the plant itself, but have the power to decompose the elements of other organic matters with which they come in contact. Not so with the dry plant, which requires an agency outside of itself to decompose it. Again, if the green plants be allowed to dry in the air, the saline matter they contain is gradually given up as the rain falls upon it, and it is lost by evaporation; but, if buried beneath the surface, it is restored to the land.

The practical results obtained by green manuring are the following:

(1) When the land is in such an exhausted state that the farmer cannot obtain animal manure enough to keep up the fertility of his whole property, growing plants for a manure brings up from beneath, as far as their roots extend, those organic and inorganic elements upon which the plants feed, and stores them up in their substance, and, when plowed down, they are near the surface again.

(2) The greatest amount of good is obtained by plowing the plants down in their green state, as there is already a loss, by evaporation, of both the organic and inorganic substances if exposed to the air after cutting. If eaten off, even by animals, there is a loss in converting the plants into manure, so that in no other form can the same crop convey to the soil an equal amount of enriching matter as in that of green leaves and stems.

(3) The beneficial action is almost immediate, as green plants decay rapidly, and they thus allow the first crop sown afterwards to reap the full benefit. This is very clearly seen, in latter years, upon land alternately cropped by wheat and alsike clover, in sections where this rotation is practised, and the land is becoming richer and being built up.

(4) By the bringing up of the lime and other elements from beneath, the straw is strengthened in the succeeding crops, and yields a larger proportion of grain to the amount of straw than animal manure would accomplish, and rust is, therefore, to a large extent, if not entirely, avoided by the available increase of lime, the straw being made thereby more healthy.

(5) It has the most beneficial results upon soils that are poor in vegetable matter, on account of the large percentage of organic matter captured from the air. I refer more particularly to light sandy or gravelly soils, and stiff clays.

It will be perceived, from what has been written, that, to carry on a system of green manuring to the greatest advantage, two main things are to be considered:

(1) We should sow those plants that will grow the most rapidly, and produce the most vegetable matter, in a given time and at the smallest expense.

(2) We should also select those plants whose roots will penetrate the deepest into the earth, bringing up those substances which have gradually worked themselves down to the subsoil. These two considerations should go together.

The crop for this purpose which is, undoubtedly, the best for the Canadian farmer is either red or alsike clover. Clover, as a general thing, can always be sown with a profit along with the grain in the spring, even if it should be plowed down in the fall again. And the ordinary farmer, who sells the bulk of his grain on the market, should green-manure his land extensively, as the nitrogen and other substances are carried off with his grain, and his manure is not of a rich quality.

Buckwheat is a very good crop to grow for green manure. Two crops can be easily grown and plowed down in one season, but it has not the good qualities of the clovers in gathering nitrogen. But, on account of the great amount of carbon the stem and leaves contain, it produces a great heat in the soil, caused by the rapid decay of the plants. This heat destroys the seed germ of many weeds that may be in the ground, so that buckwheat not only enriches the soil, but cleans it as well.

Rape and turnip seed, sown thickly, are other crops that can be sown to advantage. Two or three of these crops can be sown during the season on the summerfallow.

The farmer has several things to consider in growing green crops for a manure. For instance, the plants should be plowed under before they blossom, as otherwise there is a great deal of nitrogen given up while the plants are in bloom.

Farms that are much of the time in meadow or grass do not require a green crop, as they are generally rich in vegetable matter. What is required in such soils is plenty of lime, salt, or plaster to act upon that vegetable matter to be enabled to grow the greatest crops. In such soils, that so abound in vegetable matter and have little soluble mineral matter, a large growth of straw is obtained, generally rusted, especially in wet, damp seasons, and at the expense of the little grain produced accordingly. Such straw is sappy, weak, and so diseased that the fungi readily act upon it. This may, and does, sometimes occur in impoverished land, but not so readily as in rich land, because in such land the organic and inorganic substances will be more evenly balanced. These exhausted lands may require both mineral and vegetable matter, both of which are found in our barnyard manure, if rich in quality, so that green manuring will only have a practical result as an assistant with animal manure, and, when the latter is insufficient to keep up the fertility of the farm, green manuring should go hand in hand.

From the above it will be readily perceived that no extra mineral matter is added to the soil by green manuring; only those substances such as lime, potash, silica, etc., are brought up from beneath and deposited nearer the surface. But, on the other hand, organic substances, such as nitrogen, carbon, and their compounds, are extensively added by the green crop by natural laws.

Plenty of seed should be sown for a green crop, so that the ground may be well covered, and it should be only plowed under to the depth of three or four inches, so that the manure will be readily available for the young roots of the coming crop. When it is near the surface the oxygen of the air will the more

easily decompose it. The composition of each of the plants given might be given did space permit.

### Questions and Answers.

**Wire Worms.**—Subscriber: What is the best way to kill wire worms in corn?

**Ans.**—Wire worms are the larvae or grubs of snapping or click beetles, and breed especially in low, damp, cold soils, feeding on the roots of grass and probably other herbaceous plants. They probably require a little over three years to develop from the egg to the adult. No thoroughly practical method of destroying the worms has as yet been discovered. Their numbers may be reduced by fall plowing, and their haunts rendered unattractive by a rapid rotation of crop and by underdrainage. Where fields of corn are attacked and replanting made necessary it is best to plant the second time between the old rows, allowing the latter to stand as long as possible in order to hold the attention of the worms and keep them diverted from the later plants.

### Orchard and Garden.

#### How a Mulch Acts.

The value of a mulch is only partially appreciated, and there is a wide field for development in using mulches of all kinds, writes A. B. Barrett, in the *New England Farmer*. We obtain our ideas of mulches from the prairies and forests, where nature forms her own mulch. The decaying leaves and stems soon form a mass on the surface which prevents the soil from losing much of its moisture. This leaf mold and accumulation of vegetable matter acts as a protecting covering for the soil, and it will be found around the trees in every forest and around the roots of wild grasses on every meadow. In imitating nature, as she works in the field and forest, we adopted the artificial mulch around our fruit trees, and found that it worked to their advantage. A mulch, besides retaining the moisture in the soil, also secures a more uniform temperature and adds considerable plant food to it. The nature of the mulch is an important part of the work. Flat stones may be used around trees, forming a permanent mulch, but their action is merely mechanical. It retains the moisture and temperature of the soil, but it adds nothing to it. Sawdust is but little better, but straw and new mown lawn grass form rich mulches that add plant food to the soil.

The exact change which takes place in the soil when a covering is placed over the surface is not generally understood. Some chemical change takes place, and the soil is enriched for a time. In some of the gardens of France the benefit derived from shading a portion of the soil is understood and carried out successfully. Tiles cover the strawberry beds, with holes made through them here and there for the vines to grow out of. Flower gardens are likewise covered with tiles or cement, leaving no part of the soil exposed except where the plants come through. Expert horticulturists there find this method of great advantage. In a less expensive way parchment paper can be used for covering the garden soil. Brown paper dipped in sulphuric acid should be used for this purpose, as it is then made tough and waterproof. In times of drouth this mulch acts splendidly. It retains the water, accelerates the growth of the plants, and keeps down the weeds. More experiments with mulches will, in time, make gardening much easier and more profitable. The parchment paper mulch, however, for small places is the simplest, cheapest, and most effectual that has yet been experimented with.

### The Dairy.

#### Feeding Fat into Milk.

Most dairymen are now agreed that it is impossible to increase the butter-fat in milk, whatever kind of feed be fed to the cows. Occasionally, however, we find a dairyman who maintains that the thing can be done. Such a one is a Mr. Van Dreser, who is reported in *Hoar's Dairyman* of June 20th, 1894, as having said that four thoroughbred Holsteins were fed two pounds of clean beef tallow each daily as part of their ration, and were then tested, with the result that increases of from 30 to 98 per cent. were found in their butter yield in the fifth week after the commencement of the test.

The importance of conducting further investigation into this matter led Prof. Wing, of the Cornell University Experiment Station, to carry on a test at that station last fall. Five cows were tested, four being Holsteins and one a Jersey. No trouble was found in getting the animals to eat the tallow, which was gradually increased until they got two pounds each a day.

No marked changes could be found in the quality of the milk of these cows, so another lot containing some thin heifers, giving small amounts of milk of not very good quality, were selected for a second test, it being thought that these might, perhaps, be more susceptible to such radical changes in the food. Nevertheless, no marked changes were found in the milk even of these, except that there was a slight decrease in the percentage of butter-fat of the two-year-old heifers. At the end of the period, however, all the cows, except one, were still giving practically the same amount of milk, and of the same quality, as at the commencement of the test, two months after the close of it. It is thus possible that the tallow had acted beneficially in keeping up the quantity and quality of the milk, but there was certainly no benefit to the butter-fat, during the period of the test, from feeding tallow to the cows.

#### Provincial Dairy Show.

The prize list for this show, which is to be held at Gananoque on Oct. 1st, 2nd, and 3rd, is in our hands, and will shortly be issued to breeders. A full prize list is offered for all milk breeds in separate classes, and a class for cows of beef breeds, to be shown in milk, is also included. Dairy products and appliances are also well looked after in the prize list. A new departure is made in judging milch cows by the scale adopted by the British Dairy Farmers' Association. The following is the scale: 1 point for each pound of milk; 20 points for each pound of fat; 4 points for each pound of solids, not fat; 1 point for each ten days in milk, after the first twenty days (limit, 200 days); 10 points are deducted from the total score for each per cent. of fat below three per cent. in the milk. Bulls and heifers will be judged by conformation.

#### Will it Pay the Dairyman to Raise His Own Milch Cows?

This question has been, and still is, a much-debated point. A large number of dairymen do raise their own milch cows, but we believe a still larger number are content to make up their herds by purchase, from time to time, of the animals required.

The dairymen who do not raise their dairy

calves argue that it does not pay them to do so. They say that, when one takes into consideration the value of the milk fed to the calves during the first few months of their lives, and which, consequently, is so much less ready money to put on the credit side of the ledger, and when one counts up the amount of food that they will consume before they come into profit, there is even a loss in so doing.

This line of argument is very specious. There is, no doubt, a great apparent advantage in feeding food to developed cows that are bringing in ready money during the greater part of the year, in preference to giving it, or its equivalent, to young, immature stock that have to be fed for three, or nearly three, years before they make any return for it, but this is not everything that has to be taken into consideration. In the first place, the number of first or even second-class milch cows, such as the ordinary dairyman can afford to buy, are by no means plentiful. When, then, the dairyman has to buy, he has a good deal of hunting to do to find cows suited to his purpose. Milch cows of a kind there are in plenty to be disposed of, and they can be bought cheap, but they are the kind that their owners are anxious to get rid of, because they are unprofitable, or not desirable for some reason. In order to get what he wants, then, the dairyman has to pay a good stiff price, as a rule, and even then his purchase may not be satisfactory.

Let us now take the case of the intelligent dairyman who raises his own cows. He knows exactly what the individual cows in his herd can do in the way of milk and butter-fat performance. He uses a purebred sire that is of a family noted for their usefulness in the dairy. He breeds only from his best cows, or, at least, he only retains in his herd the heifers from such cows, and disposes of the rest. He feeds and develops these heifers from the start, and gives them every opportunity to become as good, or better, milkers than their dams. They are under his eye all the time. He treats them with gentleness, and when, in due course, they commence to milk, they give him good returns for all the care they have received. We certainly think that this man will be better off financially, and in every way, than the man who is constantly replenishing his herd from other people's stables.

If any proof were wanted as to the profitableness of raising dairy cows, it is to be found in the fact that, both in Canada and the United States, men have made money by raising such cattle, not for their own stables, but simply for selling to dairymen. Surely, they would not go to the expense of feeding young stock till they came into profit, unless there was money in it. And, if dairymen find that there is money in buying such stock at the paying prices asked by the sellers, how much more profitable must it be for the man who raises his dairy cows and keeps them in his own service! He thus gets a profit on the feed fed during their youth, and all the profit from the cow's returns in milk and butter later on.

Many farmers have herds of dairy cows that they are anxious to improve in the line of milk production, but have not the means to make much improvement at the outset. To these we would suggest that they should pick out three or four, or more, of the best cows in the herd, and make use of the services of the best sire of the dairy breeds to be found in their neighborhood. Keep the heifers from these, and when old enough put them to

another sire of the same breed, and so on. You will be surprised at the great improvement that will take place in your herds when the young stock come into profit. But be sure and use only sires of pronounced dairy qualities, and only purebred sires, as these alone will reproduce their qualities, as a certainty, in their offspring.

#### Flavor in Butter.

The *Rural New Yorker* has been investigating the subject of flavor in butter, and, in order to get the opinions of scientists on the subject, sent out the following questions to several of the best authorities on dairying, including Professors Robertson and Dean:

(1) Is what the market calls flavor and aroma in butter the direct influence of the feed? Can flavor (market kind) be secured by the feed? If so, what rations fed to the cows will give the desired flavor?

(2) Has butter fat, when first drawn with the milk, any flavor that has a resemblance, or relationship, to the flavor that is found in the choicest made and high-priced butter?

(3) Would indigestion in a cow, or her being unable to digest the ration because so large in amount, or gluttony, incident to a change of food where the amount was unrestricted, have any influence, bad or otherwise, upon the taste of the butter?

(4) What causes butter at times to have a taste like the food the cows have eaten?

(5) If food is the source of flavor in butter, as some assert, of what use are "starters," cults, "No. 41," and the like, in fine butter-making?

The answers received are nearly unanimous to the effect that the fine flavor and aroma required in choice butter are not due to any direct influence of the feed, and Dr. Babcock says butter fats have scarcely any flavor when pure. It is conceded, however, by all that, when such foods as turnips, onions, or other similar strong-flavored foods are fed to milch cows, then flavors are imparted to the butter, but some of the writers seem to think that these flavors are absorbed by the milk from the atmosphere of the stables, rather than through the internal organs of the cow. Indigestion in cows apparently has little or no effect on the flavor of butter.

The advantage of using "starters" in butter-making is that these "starters," if rightly produced, contain the proper species of bacteria necessary to produce the required flavors in the butter. They are especially valuable where poor or bad flavors exist in the cream, as they overcome these and assist in improving the flavor of the butter.

#### Danish Farmers in Co-Operation.

Mrs. Alec Tweedie, who before her marriage was a most successful buttermaker, contributes to the *Fortnightly Review* for May an article on Danish buttermaking, and on Danish agricultural enterprise in general. She does not like to see so much English money going abroad for what she believes could be produced at home, and she takes for her text

**Brookbank Holsteins Won Milk Test** at Toronto, both 1st and 2nd prizes. Silver medal for best female, any age.

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CURRIE'S CROSSING, ONT.

the declaration of the Secretary of the Admiralty that the butter for the navy "was ordered from abroad because our agriculturists could not hold their own with Danish butter." There is so great a yearly increase in the import of Danish butter that we paid last year a million sterling for it more than in 1893. A good deal of this is at the expense of the British producer. Yet the production of butter for export is quite a new industry in Denmark. The business is only twenty years old, and now "butter-making is the chief trade of the

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BREEDER OF

Scotch Shorthorns and Southdown Sheep Imported King James at the head of herd. Riverview Farm, Danville, Que. 335

country, and the source of the greater part of its revenue." In explanation of this Mrs. Tweedie states that "the Danish farmers have seen the advisability of combining and working together, and have realized the advantage of employing modern scientific principles. They have also found that the quality of butter cannot be maintained where each farmer makes it according to his own method and after his own ideas, with the result that individual buttermaking has been entirely given up. The farmers keep the cows and deliver the milk, or more often merely the cream—properly separated by centrifugal machines—to the buttermaking factories, of which there are some hundreds established over the country. There the butter is made on the newest scientific and hygienic principles, and a certain standard of excellence is maintained. The result of this combination of labor, with improved methods of manufacture, is that the Danish farmer to-day is a rich man, with a regular business, instead of being discontented, unemployed, and often almost starving, as so many of our own farmers are in England." As to the extent of the trade done by Denmark, the table of figures quoted leaves no doubt. The exports of bacon and eggs have both greatly increased, but the most significant figures relate to butter. They show that in 1889, 677,398 cwt. of butter was exported to England, of the value of £3,742,869, while in 1894 the exports to England were 1,102,493 cwt., of the value of £5,843,954.

This large increase in half-a-dozen years is not due to any state undertaking. Danish buttermaking is not a state business. The state has nothing to do with it beyond arranging competitions and awarding prizes for excellence. "These competitions are usually arranged at twelve hours' notice, so that competitors are obliged to send in any butter they happen to have ready, instead of an extra good pound or two made specially for the exhibition with great care." The egg business in Denmark is also a brisk one; the country makes £400,000 out of eggs, and most of these are collected from the peasants with their half-dozen fowls. And the pig-rearing business is also being pushed as an adjunct to the butter trade, the pigs being fed on the milk left from the buttermaking.

Mrs. Tweedie says Denmark makes £8,456,434 a year from England out of butter, bacon, and eggs, and she asks, "If Denmark can produce these articles at a profit, why cannot we? The climate of England is the same, and our geographical position better. The soil of England is better than that of Denmark, but, alas! the enterprise is lacking, and there is no co-operation."

In the above quotation is the reply to the problem. The Danish farmers have combined, and, working together, now use modern scientific principles to produce butter that is always good alike. Here is all the difference between working at a loss and working at a profit. Mrs. Tweedie goes into details to show how the system is worked by the Copenhagen Milk Supply Company—a business which, under the direction of Mr. Busck, pays its 5 per cent. dividend, notwithstanding that it takes what nearly every one of our farmers will say is a world of trouble, which no Englishman thinks necessary. Every visitor to Copenhagen notes that the milk is applied in bottles, which are sent out from the central offices of the company sealed down. Even the half-skimmed milk is sent out in sealed cans, from which it can only be drawn by a tap. And the price, notwithstanding all these precautions, is 10d. per gallon for sweet milk,

5d. for half-skimmed and for butter milk. The butter, of which from 400 to 800 pounds is made daily at the factory, and about one-half of the quantity sold in Copenhagen, is packed in one-pound china pots. The company takes the milk of numerous farms within thirty miles of the city, and makes the strictest provision for the purity and cleanliness of the article, even going so far as to pay the farmer for the milk not used if he reports immediately the occurrence of any infectious disease on the farm, either among men or cattle. The company employs about 250 persons.

The state in Denmark does something which we might well copy. Twenty years ago Denmark was in the position that English agriculture is now. She has since turned her land to account, and is working it at a large profit. So much for co-operation—this is the moral of Mrs. Alec Tweedie's article.—London Agricultural Gazette.

**Poultry.**

**How to Get the Best Results from Farm Poultry.**

First Prize Essay, by H. BOLLKWT, Cassel, Ont.

In order to get the best results from our hens, we must make them a branch of our business, and pay more attention to them than is done in most cases. Poultry will no more pay if neglected than any other business will. The successful men are those only who carefully look after every branch of their pursuits. Nine times out of ten the farm hen gets little or no care, but has to scratch for her living, roost out on the fences and trees, endure the piercing cold winds and rains, and take care of herself as best she can. In some cases the poultry are supplied with a house, but most of these are inadequate and unsuitable. Is it any wonder, then, that under such treatment they do not pay, and are deemed as unprofitable by most farmers, while under more favorable treatment and care they would prove the farmer's best friend and pay him a handsome profit for the food consumed?

To make a success with our hens, we must commence by providing them with a comfortable, roomy, well lighted, and cleanly kept house, which need not necessarily be a costly structure, but can be constructed of ordinary material, so long as it is roomy, well lighted, free from cold draughts, and sufficiently warm in winter to keep its inmates from freezing their tender parts.

It should contain two rooms, a smaller one in which they sleep, and a larger one in which they are fed and take exercise during the day, scratching and hunting for their grain feed, which should be scattered among cut straw or chaff, in order to make them work; for a lazy hen, like a lazy boy or girl, never amounts to anything, and is only a source of annoyance. Now, after you have a suitable house, you must stock it with a chicken that is bred to suit your purpose. For most farmers who are not within reach of a large city market, where they can dispose of their chickens for broilers at a remunerative price, the production of eggs, in the main part, will be found the most profitable, and for such the different smaller breeds (which by many are termed as the egg-producing machines), such as Leghorns, Minorcas, and Andalusians, will prove the best. Where both eggs and chickens can profitably be disposed of, Plymouth Rocks, Wyandottes, and other large breeds will answer best.

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### - SHORTHORNS -



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To obtain suitable hens it is not necessary to buy a flock of high-priced show birds. You can either purchase a setting or two of eggs, or buy a purebred cockerel, which you can get from almost any breeder at a reasonable price (as he need not be a show bird). Mate him with a few of the best of your common hens, but select those which begin to lay earliest in the season, as well as laying a large egg, for it is large eggs that bring big prices in our large cities, which are necessarily our best markets. You will be surprised at the improvement you can make in this direction in two or three years by careful selection and proper mating. For illustration, the writer weighed a dozen of his White Leghorn eggs, and they weighed 1 lb. 14 ozs. The hens that laid these eggs are bred more for profit than for fancy points. Bear in mind that you should always use a purebred cock and introduce fresh blood every year or two, but always one of the same breed. Have your chicks hatched early in the spring, so that the pullets will start to lay before cold weather sets in, and do not keep hens after they are three years old, excepting some very desirable ones for breeding.

Next comes proper feeding. Feed as great a variety as possible. The hen relishes a variety in her diet as much as you do, and will only do her best if she receives what she desires. In the morning give a warm feed composed of bran, shorts, chopped barley, or cornmeal, seasoned with a little red pepper. All table scraps, as well as small potatoes and peelings, boiled, can be added with profit. Clean, warm drinking water must be regularly supplied, and a mangold or a cabbage every day is greatly relished. A feed of meat scraps should be given once or twice a week. The noon and evening meals should be of grain, such as oats, barley, and wheat, these being constantly changed. Plenty of fine gravel and sharp grit, as well as a dust bath, should always be supplied. When your hens are thus fed and looked after, they will shell out the eggs to your heart's content.

Now, when you have the house, hens, and eggs, next comes the marketing, which is of as much importance as any of the other points. It is generally in selling eggs to the stores that most money is lost. There is nearly always a difference of from 3 to 10 cents per dozen in the price obtained at country stores and the price obtainable in large cities. You must ship or market your eggs direct to customers, and ship or deliver perfectly fresh eggs only. These should be gathered every day. Never dispose of any which you are not certain are quite right; you will thus get your name established, and you will always find a market at good paying prices. To sum up, if we would get the best results from farm poultry, we must (1) provide a suitable house for them, (2) stock it with hens adapted for our purpose, (3) feed liberally with a variety of feeds, (4) market our eggs and chickens in the most advantageous markets, and we shall never be able to say that poultry does not pay.

## BRITISH ADVERTISEMENTS.

Secretary to the National Sheep Breeders' Association of England and the Southdown Sheep Breeders' Association; Hon. Sec. Kent Sheep Breeders' Association.

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References - JOHN JACKSON & SON, Abingdon, Ont.; N. CLAYTON, Selsey, Chichester, Eng.

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Established over a century. One of the best and purest of Southdown Flocks in England. Many prizes have been won for the last 15 years. Rams and Ewes always for sale; full pedigrees kept.

### THE IMPROVED LEICESTER SHEEP BREEDERS' ASSOCIATION.

The second annual sale of Improved Leicester Sheep will be held at Great Driffield, Yorkshire, on **THURSDAY, SEPT. 12th, 1897.** The third volume of the Flock Book is ready.

**JOSEPH CRUST,**

Great Driffield, England. Secretary

**Elwin Buss, Elphicks, Horsmonden, Kent, Eng.**

Breeder of Pedigree Large White Yorkshire and Berkshire Pigs. Highest awards at Royal Shows, Boars, Vets, and in-jug. Sows of either breed always for sale. Yorkshire boar in use, Holywell Bath (1899), winner of 1st prize, 4 seconds, 230-240 lbs. A few pedigree Bates-bred Shorthorns kept.

### KENT OR ROMNEY MARSH SHEEP.

The Walmer Court Flock, established in 1830, duly registered and recorded in "The Flock Book of the Kent or Romney Marsh Sheep-Breeders' Association" has long been considered a leading flock, and has won over \$5,500 at the R.A.S.L. and other leading shows. Inspection and enquiries invited. Apply to the owner,

**H. PAGE, Walmer Court, WALMER, KENT, ENGLAND.**

**JAMES LAWRENCE, Stall Pitts' Farm,** Shrivensham, Bucks., England

BREEDER OF . . . Registered Berkshire Pigs, from stock unsurpassed for true characteristics, size, and quality. One of the oldest established herds in England. Enquiries Solicited - Prices Moderate

**F. N. HOBGEN, F.S.I. T. C. HOBGEN, F.S.I.**

### HOBGEN BROS.

Auctioneers and Cattle Commission Agents, **CHICHESTER, SUSSEX, ENGLAND.**

Appointed Auctioneers to the Southdown Sheep-Breeders' Association.

**SIR THOS. BARRETT LENNARD,** Woodingdean, Rottingdean, Brighton, England.

Large White pigs of prize-taking blood, bred entirely from the stock of Sanders Spencer, Walker Jones, and Duckering, and Berkshire pigs from the stock of Benjafield. Boars, yelks, and sows always for sale at very moderate prices.

**AYRSHIRES.**

**MENIE STOCK YARD.**



Breeder of **Ayrshire Cattle** and **Berkshire Pigs**. First-class pedigree stock always on hand and for sale. *First-class milking stock a specialty.* Hoard's Station, G.T.R., 134. **WM. STEWART, Jr.,** Meade, Ont.

**AYRSHIRE CATTLE**

**DAVID BENNING,** Glenhurst, Wilhamstown, Summerstown Station G.T.R., 134. BREEDER OF Ayrshire Cattle, Leicester Sheep, and Berkshire Pigs. The bull, Tom Brown, and heifer White Bloss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock always for sale.

**NEIDPATH STOCK FARM**

**Thos. Ballantyne & Son** Stratford, Ontario.

**Purebred Ayrshire Cattle** Herd consists of the finest of both Beauty Style of Ayrshire and the imported ones of the best milking strains and their progeny, by registered bulls.

**GREENHOUSE STOCK FARM.**

**W. B. Cockburn,** Nasagaweya, Ontario. Breeder of Ayrshire Cattle, Ont. and Sheep and Berkshire Pigs.

I have several choice bull calves from imported cow for sale, at prices to suit the times; also a nice lot of shearing, Oxford ewes, and some very promising Berkshire pigs. Write for prices and particulars.

**AYRSHIRE BULLS FOR SALE.**

One yearling Bull, one two-year-old Bull, Heifer and Bull Calves. All first-class milking stock. Prices reasonable. Address, **W. H. KIDD,** Pettie Cote, Que.

**AYRSHIRES FOR SALE.**

Young stock of both sexes, sired by Silver King 58-9, and Chieftain of Barheskie 1962 for sale at reasonable prices. Write for prices or call and see my stock. **D. DRUMMOND, Jr.,** 187 Pettie Cote, P.Q. Near Montreal.

**CHOICE AYRSHIRES.**

Stock bull is imported **SILVER KING** who took 1st prize—2-year-old class—in 1874 at Montreal, Hochelaga, London, Ottawa, Toronto, as also silver medal there as best bull of any age. Dam of Silver King is **Nelly Osborne** (imported), who took 1st as milk cow and champion medal at World's Fair, and his sire is **Traveller**, the champion Ayrshire bull of Scotland. I offer for sale young stock of both sexes sired by this famous young bull, and whose dam are not only good individuals and prize winners, but heavy milkers as well, with exceptionally high tests for quality. Please address **D. McLELLAN,** 186 Pettie Cote, P.Q.

**JAMES COTTINGHAM,**

Riverside Farm, Breeder of Ayrshire Cattle. Herd traces direct to stock imported by Andrew Allan, Montreal, and headed by the prize-winning bull, **St. James** (5541); sire, **Bob Roy** (3971). Stock of both sexes for sale at all times, including some choice young bulls and heifers. Correspondence solicited. Visitors welcome. Railroad station and post office, **Oranstown, Que.** Farm one mile from station. 337

**Poultry Ideas.**

By **JOHN J. LESTER,** Oshawa

Experiments with poultry are best made with small flocks. It is an impossibility to observe fully a large number of fowls so as to be familiar with all the details of management. Each hen is a subject in herself, and will afford ample work to one who desires to learn more. The most successful persons are those who begin with a few fowls, study their characteristics, and gradually increase the number. The best safeguard against diseases is to experiment in the cure of them with a few fowls; to learn how to avoid loss and prevent disease, one should first manage a small flock. Experiments with a few fowls teach how to manage large numbers.

**AYRSHIRES.**

**Ayrshires and Shorthorns**



Of the finest breeding. A number of bull calves sired by **Dominion Chief**; dams, **Amey, Ella,** etc. A beautiful light-colored yearling bull from **Amey**, and several Shorthorn heifer calves sired by **Gibson Duke.** Send for all particulars and prices.

**JOHN H. DOUGLAS,** Breeder and Importer, Warkworth, Ont.

**Ayrshires...**

None but the best kept. Some fine bulls, also calves of both sexes for sale. Send a card for full particulars. **F. W. TAYLOR,** Wellman's Corners, 227 Ontario.



**AYRSHIRES**

A few fine young stock bulls for sale. One by the same dam as the Columbian winner (**Tom Brown**). Also some good young females. Come and inspect our stock. Prices to suit the times.

**ROBERTSON & NESS - Howick, Que.**

**Sale of Ayrshires.**

At the sale to be held on Mr. J. N. Greenshield's farm, in September (date to be announced later), we will offer twenty head of purebred Ayrshires, of different ages and both sexes. There are no inferior animals among them. It will be a great chance to get a start with this breed. Date of sale is to be either preceding or immediately following the Montreal Fair. Catalogue ready about end of July, a copy of which will be sent free to any one sending a post card.

**A. McCALLUM & SON,** Spruce Hill Dairy Farm. DANVILLE, QUE.

The pigeon, as is well known, will feed at all the poultry yards in a neighborhood, and is no respecter of owners. A flock of pigeons will soon learn to know the feeding hours, and will alight in yards when not desired. They are liable to carry disease from one yard to another, even on their feet, and, as they are subject to many of the diseases that affect fowls, particularly roup, they are a nuisance in any community. They will also introduce lice from a distance. If one wishes to keep pigeons he should do so by keeping them confined in wire yards, covered, and not at the expense of his neighbors' feed, with the risk of causing disease in all the flocks. There should be some protection for those who do not wish pigeons in their yards.

In the summer season the hens on the range secure a large share of food that cannot be utilized in any other manner, and, where a small flock is kept confined in a yard in suburban localities, they can be kept on the waste from the house. The hen will subsist on all kinds of food—meat, seeds, fruits, and vegetables, which gives her a wide range. It will pay to keep a few hens to consume the waste of a family, as the hens return their product to their owners in a short time. To attempt to feed a pig on waste food compels the owner to wait until the pig matures, but the hen will begin laying and continue throughout the season, thus paying cash in eggs for all she receives, and she will accept anything that is edible. A small flock pays better than a large one, proportionately, because of the utilization of the refuse and because little or no labor is required for them compared with a large number. All who have waste and refuse should provide a place for hens, and thus convert the useless into something useful.

A huckster, who buys for Toronto market, gave us a call on June 6th. His mission was to buy the old breeding hens that are too old to be useful to any one another season. Of course, we nearly gave them to him to be rid of them. While he was "spying" around, he happened to see some of our early chicks. How hard he tried to persuade us to let him have some! Here is the whole story in a nutshell. Those chicks were just ten weeks old the day he was here. We weighed a couple. The pullet weighed 2 lbs. 2 oz. and the cockerel 2 lbs. 4 oz. He said he would give us just \$1.00 per pair for all the chicks of that size we had. Further, he told me that he had seen chicks that weighed no more than a pound sell, on about the first of April, in Toronto market, for eighty cents per pair. We can get chicks to weigh that at about six weeks old, so we rather think there is a pot of money for any one that will take hold of the broiler business and run it right. Can farmers make money faster? Get incubators and brooders and "go in and win."

**Jottings.**

**NOTICE.**—New advertisements, notice of which is desired in the Jottings or Stock Notes columns, must reach us by the 20th of the preceding month. Items for Stock Notes, to secure insertion, must also reach us on the same date.

**Of Interest to Breeders.**—In a few weeks horses and cattle will be put on grass, and the greatest care is necessary to prevent the sudden change of diet having very serious effects. Dick's Blood Purifier tones up the whole system, and the animal goes on thriving instead of being set back by a change.

**American Hackney Stud Book.** We are indebted to the secretary, Mr. William Seward Webb, 51 East 44th street, New York, for Volume 2 of the above record. It is gotten out in very good style, and is embellished with several fine cuts, including those of Matchless of Lonsesboro', Rufus Jr., and others.

**POLLED ANGUS.**



**UNDISPUTED FACT**

That the best of the **POLLED-ANGUS** commands the highest price in the British market. Drop us a card and get full particulars of our best. **Wm. STEWART & SON,** 187 Lambton Co., WILLOW GROVE FARM, Lucasville P.O., Ont.

**HOLSTEINS.**

FOR PRICES ON

**HOLSTEINS**

WRITE TO

**F. A. FOLGER**

**RIDEAU STOCK FARM**

BOX 577 KINGSTON, ONT.

**HOLSTEIN-FRIESIANS**

Richly bred. None but the best kept Young bulls and heifers of the Netherland, Peel, Johanna, and Moore strains.

**JNO. MCGREGOR,** Constance, Ont.

**HOLSTEIN-FRIESIANS**

**H. BOLLERT,** Cassel, Ont.

A new offer for sale several very choice bulls fit for service; they are of rare breeding, with great milk and butter records to back them. Also females of all ages and at breeding at prices that are right. Remember the best are the cheapest. Come and see them, or write for prices and full particulars.

**REGISTERED HOLSTEINS**

FOR SALE BY

**ELLIS BROTHERS,**

**BEDFORD PARK P.O., ONT.**

3 miles north of Toronto, on Yonge Street. Electric cars bring you to our gate.

Inspection Invited and

Correspondence Solicited.



**Fairview Farm**

**E. PANNAECKER**

Breeder of Grand Milking Cattle. Registered Holstein Cattle. A specialty in females of all ages at present.

244 Hespeler, Ont.

**BROCKHOLM HOLSTEINS**



Netherland Romulus, a grandson of Netherland Prince and Albino and, at the head of herd. Original stock cows all imported from Holland. Also Improved Large Yorkshire Pigs of the best strains. **Young Stock for Sale.**

**R. S. STEVENSON,** ANCASTER P.O., ONT.

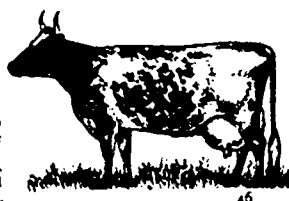
"Your paper is always welcome to our home, to myself and family. Am sorry that more of my neighbors do not see fit to take it. Of course the plea is that money is so scarce, but I think the little money is well-invested."

**DONALD FRASER,** Emerson, Man.

**ALEX. HUME.**

**Burnbrae P.O., Ont.,**

Importer and Breeder of **Ayrshire Cattle** and **Yorkshire Pigs** has for sale a few large aged cows, two yearling heifers (not yet served), a few fine calves, one two-year-old bull of the heavy milking strain, one one-year-old (imp. in dam) of the best strain of Scotland's Ayrshires, and some choice young cows and heifers of several crosses from the best of dairy stock. Also spring pigs from four months old down and two sows under two-year-old class, one boar and two sows under one-year-old class. Show animals. Telephone, Hoard's Station, G.T.R.



HOLSTEINS.

IF

you are anxious to get some good Holsteins, or Yorkshire, or Tamworth pigs, I can be of service to you. Only best handled. Some fine stock now for sale. I will pay you to write me. A.C. HALLMAN, NKA DUNDRE, ONT.

171

HELBOIN STOCK FARM

Holstein-Friesians of the highest producing strains, founded on the best imported families of NORTH HOLLAND.



A few grand young bulls on hand at reasonable prices and easy terms. Also Improved Large Yorkshires of Sanders, Spencer and Walker Jones' breeding. Also choice Oxford Down rams.

J. W. LEE, 430 Simcoe, Ont.

JERSEYS.

FOR SALE.

A. J. C. C. JERSEY BULL CALE.

Dropped Nov. 12th, 1894. Solid color, black points. Combines close up to blood of Ida's Rioter of St. L., 19 tested daughters. Stoke Pogis, 27 " " " " Tormentor, 33 " " " " Ida's Stoke Pogis, 23 " " " " Pedro, 21 " " " " Ida of St. L. tests 30 lbs. 2 oz. Allie " " 26 " 12 oz. Oonan " " 22 " 2 oz. Eurotas " " 22 " 7 oz.

For particulars and prices, write H. PRALEIGH, - St. Marys, Ont.

JERSEY BULL FOR SALE

Calved July 26th, 1894, sired by Exciter 3360, dam Matriona of St. Lambert \$2304, grandam Lisgara; average test, 5.19. Great grandam, Lisgar's Rose; average test, 4.7. This record is taken from Ontario Agricultural College Report for 1894, p. 151. Will sell in July for \$50. Also some

FINE REGISTERED BERKSHIRE PIGS

WILLIAM CLARK, Meyersburg, Ont.

234

JERSEY COWS AND HEIFERS.

The highest testing strains. Rich breeding and good colors. ALSO TAMWORTH PIGS.

JOHN PULFER, - Brampton, Ont.

ROYAL BUSINESS JERSEYS

I HAVE for sale for July a handsome and richly bred 2-year-old bull, Siguet Seal, bred by the sweepstakes bull at Toronto, '94. Dam gave 50 lbs. milk daily, and tested 6.2 butter fat. Handsome bull calf, 3 months old, by champion bull of Canada. Grand young cow, to calve in July. Two charming 2-year-old heifers, due to calve in July and August. Three yearling heifers in calf. Two heifer calves, 2 and 4 months old. Come and see, or address

J. C. SNELL,

Edmonton, Ont.

Brampton Stn.

SHEEP.

A Choice Lot to Pick From.

Consisting of Ram and Ewe Lambs, and Ewes in Lamb. The finest lot of Shropshire Lambs we ever bred, and you cannot object to the prices we ask. Let us hear from you.

Allen McPherson, 219 Forest, Ont.



SHEEP.

THEY ARE FINE!

Fairview's Shropshires

Were never in better shape to supply fine animals. Best breeding, all ages both sexes. Come or write, to secure the pick.

JOHN CAMPBELL, Woodville, Ont.

238

Shropshire Rams

and

Young Shorthorn Bulls

FOR SALE.

ALSO A FEW FEMALES.

All of the finest breeding. Write for particulars and prices, or come and see our stock. Visitors always welcome.

C. H. IRVING,

Newmarket, Ont.

427

MONTROSE STOCK FARM

Breeder of Shorthorns (Waterloo Booth strains), Shropshires, Berkshires, Bronze Turkeys, and Fancy Plymouth Rocks. I make a specialty of raising Swede Turnip Seed, warranted fresh and 1/2 lb. sufficient per acre. The best quality of turnips grown. Write for prices.



118 HORACE CHISHOLM, Paris, Ont.

T. W. HECTOR

The Cottage, Springfield-on-the-Credit, Ont.

Breeder and Importer of DORSET HORN SHEEP

And dealer in Single and Carriage HORSES.

Stations: Springfield, C.P.R., and Port Credit, G.T.R.

179

SPRINGBANK STOCK FARM

SHORTHORN CATTLE, OXFORD SHEEP, BERKSHIRE PIGS, AND BRONZE TURKEYS.

Three Bull Calves for sale, sired by a grandson of Indian Chief. Good animals. Prices to suit the times.



115 JAS. TOLTON, Walkerton, Ont.

LINCOLNS!

The Largest Flock in Canada!

Our breeding ewes, 150 in all, are from the best English flocks. Our last importation was made from the flock of Mr. Henry Dudding, and were all personally selected. If you want a ram or a few ewes, send along your order. If you want shearing or lambs of either sex, we can supply you with the very best.

J. F. GIBSON, Denfield, Ont.

W. WALKER, Hilderon, Ont.

1881 SHROPSHIRE 1881



Our flock, the oldest Shropshire flock in Canada, was founded in 1881. Importations made from time to time, selected in person from best English flocks. This season's lambs are a strong lot, dropped in January and February. Orders can now be taken for pick.

J. COOPER & SON, Kippis, Ont.

157

Jottings-Continued.

National Pig Breeders' Association's Herd-book.—We have received from the secretary, Mr. John Parr, 44 Mapperly Road, Nottingham, Eng., Vol. 11 of the above record. Included in it is the English standard of excellence for Large White pigs, known in this country as Improved Large Yorkshires.

Montreal Exhibition.—The Quebec Provincial Exhibition will be held at Montreal, from September 22nd to 25th, when liberal prizes will be offered. There will also be a bench show of dogs at the same time. Prospects are good for a splendid show. Write for information to Mr. S. C. Stevenson, manager and secretary, Montreal.

Suffolk Sheep Society.—Vol. 9 of the English Suffolk Sheep Society's flock book to hand shows that the society is progressing favorably. The present volume contains something over 400 entries, and there are 217 registered flock numbers on the books. We are requested to notify breeders that the office of the secretary, Mr. Ernest Prentice, has been removed to 24 Osford Street, Ipswich.

American Cotswold Record.—The American Cotswold Registry, George Harding & Son, secretary and treasurer, Waukesha, Wis., will offer the following cash prizes at the Industrial Exhibition, Toronto, 1895: For the best flock of Cotswolds, bred by exhibitor, and registered in American Cotswold Registry, consisting of one ram, 1 yearling ewe, and two ewe lambs, first prize, \$20; second premium, \$10.

The Suffolk Studbook.—The English Suffolk Horse Society have just issued their ninth volume, which includes all entries for 1894. As no volume was issued last year, the present volume contains all entries made in 1893, as well as during the past year. The secretary reports that Suffolks have been sent to North America, Chili, and to Russia since the last report. The volume is illustrated with half-tones from life of noteworthy stallions and mares.

Queenston Cement.—For building concrete walls, cisterns, stable floors, and for similar purposes, a good cement is necessary. This can be obtained from Isaac Usher & Sons, Thorold, Ont., who keep on hand the celebrated Queenston cement, now so largely used by many farmers. They will send a skilled man when necessary, to those using their goods, who will show their patrons how to use the cement, and will thus save them expense. See their advertisement.

Metallic Roofing.—A very fine illustrated catalogue has been issued by the Metallic Roofing Co., Toronto, which sets forth the advantages of this kind of roofing over wooden shingles. The company manufacture several different kinds of roofing, as also siding and steel pressed brick, and their products have a justly-earned reputation. A number of half-tones of various buildings on which this company's roofing and sheeting are used are given at the end of the catalogue. Our readers should send for a copy.

Things Worth Noting.—Our readers will please note that quite a number of our regular advertisers, as well as our occasional advertisers from England, are taking a leading position in the English showyards this year, thus proving that our advertisers are not only energetic and far-seeing men of business, but owners of first-class, not second rate, studs, herds, and flocks. Witness Lords A. and L. Cecil's success at the Bath and West of England show with Clydesdales, and Mr. E. Huss' victories at the Oxfordshire and Nottingham shows with pigs.

A Successful Sale of Shorthorns.—The sale of that veteran importer of Shorthorn cattle, Mr. William Miller, Storm Lake, Iowa, was a very successful affair, the very satisfactory average of \$204 being made for forty-six head. The highest figure \$660, was made by the Craven Knight bull, Knight of the Thistle 108656. The old cow, Gwendoline 2nd, ran up to \$500, and was later on purchased by Col. Moberly from her buyer at an advance of \$25. Other females passed the \$300 mark. Eight bulls averaged nearly \$250, and thirty-eight females, \$194.

The Colled Spring.—This is the title of the little monthly published by the Page Wire Fence Co. of Ontario, Walkerville, Ont. The June issue gives a good idea of one of the varied uses to which the Page wire fence can be put. On the front page is a picture of a suspension bridge for foot passengers built of the fence wire supported by posts, which fills the bill perfectly. Two views of the fence on a farm in Bruce county show it (1) weighed down with snow and ice, and (2) perfectly straight again when the snow has gone off, the wonderful spring in the fence always bringing it back into position. It is undeniably an admirable fence.

Provincial Dairy Show.—At a meeting of the Dairy Show Committee of the Agriculture and Arts Association, held at Gananoque recently, on invitation of the Town Council and Board of Trade, and the County Agricultural Society of that town, it was decided to hold a three-days exhibition on the 1st, 2nd, and 3rd days of October. Large prizes will be given to the dairy breeders of cattle, as for cheese, butter, and dairy appliances in operation. Nothing will be spared to make it a great success. This will be the first purely dairy exhibition ever held in Ontario. Premiums for milk cows will be decided by the oil test. Fully \$3,000 will be offered in premiums.

Utilizing the Rooster.—A darkey down south has solved the question of utilizing the rooster's services to the best advantage. A visitor in quest of a sitting hen, having been referred to the darkey in question, was astonished to find a rooster sitting on twenty eggs. Imagining that the bird was following out the bent of its own inclinations, he made up his mind to procure some eggs from the darkey's hens. Further inquiry, however, developed the fact that the rooster's attention to the eggs was involuntary on its part, the wily darkey having bored two holes in the box, pushed the rooster's legs through, and tied them underneath. Under these circumstances, as the darkey said, "dat ar' rooster done bound to set."

SHEEP.

Oxford Downs.

We can suit you. Drop us a card for prices and particulars.



Turner & Jull, 443 Burford, Ont.

GOOD LEICESTERS

We have some of the best Leicesters to be found in the country, and if we cannot please you your case is hopeless. We have shearing ewes, ewe and ram lambs; shearing, two-year-old, and aged rams. Let us furnish you with all particulars.

E. Archer & Sons, Warwick, Ont.

OXFORDS.

Fine rams, shearing and 2 1/2 years, and ram lambs, Yorkshire sows due to farrow in a few weeks. Also Plymouth Rocks. We can suit you. Send card for particulars and prices.



JOHN GOUSINS & SONS, 270 Harriston, Ont.

"Faithe do gach fear an sho."

Linden Oxfords.

Our flocks are composed of imported sheep, or directly from imported stock; all sired by winners at English Royal.



Do you want a ram lamb-sired by the Royal winning rams, the Royal Warwick 3rd, or Bath and West? If so, write, or come and see us.

Also some fine young Yorkshires. Stations— R. J. HINE, Dutton P.O. Dutton, M.C.R. K. FINLAYSON, Glencoe, G.T.R. 414 Campbellton P.O.

OXFORD DOWNS

FOR SALE.—Six shearing ewes and a few imported ewes, 3 and 4 years old, also 25 ram and ewe lambs



Prices reasonable.

SMITH EVANS, GOUROCK, ONT., 156 BREEDER AND IMPORTER

Whiteside Bros.,

The Glen, Innerkip, Oxford Co., Ont.,

Shropshires—Yearlings and lambs. Berkshires—Breeding stock, both sexes. Also Ayrshires



In writing mention this journal.

SWINE.

Chester Whites

A large number of sows bred for fall orders. Send in your orders. Now is the time to secure special prices.

JOS. CAIRNS,

Onmlachio, Ont.

Large English Berkshires for Sale

Three sows in pig, also young stock, both sexes.

Address R. J. DIXON,

Glendon, - Ontario.

SWINE.

IMPROVED LARGE YORKSHIRES.

The winners of twenty first prizes at the World's Fair. A number of young Boars and Sows for sale.



ALL CHOICE STOCK.

JOSEPH FEATHERSTON,

Pine Grove Farm. STREETSVILLE P.O. and Telegraph, Ont.

136

St. Williams Herd of Improved

Yorkshire Swine

Choice young boars suitable for fall exhibitions for sale cheap. These are bred for early maturity as well as easy keeping qualities. Stock guaranteed as described. Correspondence solicited.

H. BENNETT & SON

St. Williams, Ont.

432

Large English Berkshires

Of the best recently imported families from which I now have a choice selection of fall and spring pigs. Pairs furnished not akin. Also a few superior Yorkshires of the best strains.

Dennis Hawkins, - Woodville, Ont.

433

BERKSHIRES

Choice pigs, by Baron Lee 4th, weight 600 lbs. at 13 months, and the following prize-winners at Toronto exhibition: Star One (imp.), 858 lbs.; Regalia, 525 lbs. at 12 mos., and Lord Ross. We have the best boars and sows in the history of the herd. Also choice Jerseys for milk, and in call.

J. G. SNELL & SON,

Brampton Stn. Edmonton, Ont.

Some of the Best

Yorkshires in the country are to be found at the Woodroffe Stock Farm. I have them for sale, cheap, from three months to two years of age. Both sexes. Young sows to farrow in October.

J. G. CLARK,

OTTAWA, ONT.

289

H. J. DAVIS, WOODSTOCK, ONT.

Improved Large Yorkshire Boars, very fine, fit for service. Also young pigs supplied not akin. Berkshire Boars of good breeding, fit for service, and young pigs ready to ship; also Shorthorn Bulls and Shropshire Rams from imported stock for sale at moderate prices.

195

Polands

BEST HERD IN CANADA. ALL STOCK GUARANTEED.

March pigs nearly all gone. Some excellent April and May pigs ready to ship.

Address,

W. & H. JONES,

160 MT. ELGIN, Ont., Oxford Co.

LARGE ENGLISH BERKSHIRES

Good show stock for sale. Various ages from 7 weeks up. Choice sows in farrow by extra large boars. Satisfaction guaranteed or return at my expense. Address,

C. R. DECKER, Chesterfield, Ont.

Bright Station, G.T.R. 298

SWINE.

Pleasant View Herd

REGISTERED TAMWORTHS



Sows in pig to (imp.) Birmingham Hero, also fine young stock of both sexes. Pairs not akin. At prices to suit times. Call and inspect or write.

E. B. KOLB, Berlin, Ont.

BERKSHIRES.

A CHOICE lot of sows for sale, bred to farrow in February and March, and some to breed yet. A few boars fit for service. Young pigs of various ages. Call and see stock, or write for prices and description.

J. H. SIEFFERT,

95 NORTH BRUCE, ONT.

IT PLEASES US

To have folks come to see our stock, or to write about them. There is always pleasure and satisfaction in handling Poland Chinas and Chester Whites when they are really well bred. The prices, too, will surprise you.

DANIEL D'OURCEY,

Bornholm, Ont.

141

KEEP YOUR EYE ON THIS SPACE



Choice young boars from three to nine months old. Young sows imported and homebred, bred to three imported hogs. A fine lot of ten just farrowed; four imported sows to farrow.

Special rates by express. All stock guaranteed as described. Visitors welcome.

C. T. GARBUTT,

Claremont, Ont.

247

POLAND CHINAS FOR SALE CHEAP.

1 Aug. 20th, 1894, Boar, 6 Sept. 20th, 1894, Boars, 1 Dec. 29th, 1894, Boar, 1 Mar. 20th, 1895, Boar, 2 April 30th, 1895, Boars, imported in dam.



I give a registered pedigree and guarantee every pig to be as represented. R. B. McMULLEN, Goldsmith P.O., Ont. 143

YORKSHIRES

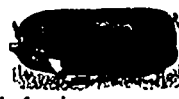
For Sale. One of the best herds in the province. Also

CARRIAGE HORSES

from Standard-bred and Hackney stallions. J. M. HURLEY & SON, Belleville, Ont. Box 442. Kingston Road Stock Farm. 372

BERKSHIRES

A choice lot of young registered Berkshires For Sale from six weeks to six months old. Pairs supplied not akin, also some good show sows under a year, at prices to suit the times. Write for prices, or come and see us. Satisfaction guaranteed. E. E. MARTIN, Canning, Ont. Paris Station, G.T.R. 112



MAPLE LEAF FARM

IMPROVED LARGE YORKSHIRES

Markham Baron, the sweepstakes lowrow over all breeds at Fat Stock Show at Guelph in 1892, was bred by us. A choice lot of young sows old enough for mating. Also young boars. Pairs furnished not akin. Only first-class stock shipped.



JOHN PIKE & SON, 292 Louisa Hill P.O., O.P.R., Markham G.T.R.

Jottings--Continued.

Burled Alivo for Fourteen Weeks.—An extraordinary incident recently occurred on the farm of Mr. James Edgar, Wisbech Fen, Cambridge-shire, Eng. A stack of straw had been cut through, and at the bottom the emaciated body of a pig, still alive, was found. Threshing had been going on during the third week in January, and the pig had evidently at that time crawled under a small quantity of straw, and ultimately the stack was erected i'ever it. Its position was nine feet from the nearest outside of the stack. Therefore, for fourteen weeks it had been buried without food or water, and with only as much air as could be obtained through nine feet of the straw stack. It was merely skin and bone when found, but by carefully feeding it with small quantities of warm milk it is now making favorable progress towards recovery.

Geology and Entomology for Rural Schools. "The Stony Records, and What They Reveal," and "Insect Pests, and How to Deal with them," are two works by Prof. J. Hoyes Panton, B.A., F.G.S., Professor of Natural History and Geology, Ontario Agricultural College, Guelph. These books have been written with a hope that they may be used by teachers in rural schools as an aid to teach agricultural science the last hour on Friday afternoon, and also that any reader may find in them much interesting and useful information. The geology sets forth in simple, clear, and concise language the teaching of geology as they relate to the economic products of the rock systems in Ontario and the composition, origin, and formation of soil. The entomology gives a general and popular description of insects, and the best methods followed to overcome those that are injurious to the products of the garden, orchard, and field. Both are full of facts that will make life upon the farm, where the look of nature is ever open, more attractive than it can ever become to those ignorant of these sciences. Ignorance of the book of nature has much to do in making farm life unattractive to the young, and has in many cases driven them to the city. With a desire to simplify the teachings of science as it is revealed upon the farm, and thus make it attractive, these books have been published. Blank spaces have been inserted at the end of the latter work, on which the teacher or scholar can make the necessary notes on the different subjects. Any person desiring a copy of either can obtain such by forwarding his address and thirty cents in stamps or otherwise to the author.

Stock Notes.

Notice.—New advertisements, notice of which is desired in the Jottings or Stock Notes columns, must reach us by the 20th of the preceding month. Items for Jottings, to secure insertion, must also reach us on the same date.

Horses.

THE HARAS NATIONAL CO., Montreal, Que., will sell in September their whole stud of Petcherons, French Cochers, and Clydesdales.

MESSES. GRAHAM BROS., Claremont, Ont., have sold to Mr. Thos. Colquhoun, of Hibbert, their handsome two-year-old Clydesdale stallion, Symmetry and [292] 7812, that won first prize at the recent Canadian Horse Show in Toronto. The price paid was \$2,000.

MR. C. H. REID, Yarna, Ont., has bought from Mr. Riddell, Scotland, a two-year-old Clydesdale stallion. This colt was bred by Mr. James Gourlie, West Farnie, Tullcross, and was got by the dual Glasgow premium horse, Moneycorn, out of the prize mare, Peggy, by Flashwood (3604).

SIR WALTER GILBEY Bart., Elchenham Hall, Essex, the well-known Hackney and Shire horse breeder, has been chosen for the office of president of the Royal Agricultural Society of England for 1896. This is, indeed, a fitting compliment to bestow on Sir Walter Gilbey, for no one has done more for horse breeding than Sir Walter.

Cattle.

MESSES. S. & W. H. COLLINSON, 236 Sherburne Street, Toronto, who have a fine herd of Holsteins at St. David's, near Niagara, advertise good young bulls.

MR. J. N. GREENSHIELDS, Q.C., and MR. A. McCALLUM, both of Danville, Que., advertise in this issue a preliminary notice of an annual sale of stock from their respective herds to take place in September next on the premises of the first-named gentleman. The stock to be offered will all be first-class, and will consist of a large number of Ayrshire and Guernsey cattle, Shropshire sheep, and Yorkshire swine.

MR. W. J. BIGGINS, Elmhurst Farm, Clinton, Ont., sends the following: The Shorthorns are all doing well, but the frost injured the grass crop, and we have decided to sell some young stock from imported sires and dams of first-class pedigrees, some of them in calf to imported Royal Don (6477), our present stock bull, a sweepstakes winner at Winnipeg last year, and also at the South Huron show this spring. We have a fine lot of young calves, nearly all reds, sired by the well-known imported General Booth (54353).

MR. J. C. SNELL, Edmonton, Ont., in announcing a sale of Jerseys in July, writes: I have sold my stock bull, Jettam's Dollar 2690, used for three years in my herd with great success, to Mr. A. G. Ramsay, Hamilton, Ont., Manager of the Canada Life Assurance Co., and have purchased Massena's Duke, bred by Mrs. E. M. Jones, Brockville. This is a grandson of the famous old cow, Massena, which made 654 lbs. of butter in her sixteenth year. Massena's Duke is three years old and a perfect model of a dairy bull, with grand constitution and vigor.

SWINE.

E. D. GEORGE

PUTNAM, ONT.

Impoter and Breeder of OHIO IMPROVED CHESTER WHITE SWINE

The largest and oldest established registered herd in Canada. I make this breed a specialty and furnish a good pig at a fair price. Write for prices. 291



TAMWORTHS. CHESTERS.

POLANDS.



HERRON & DAFOE, 231 AVON, ONT.

Some choice Tamworth boars fit for service, and sows bred to farrow in September. Chesters from 10 to 14 weeks old. Poland 1 to 1 1/2 mos. Tamworths 4 months. A post card will bring you all information.

POLAND CHINAS at Williscroft. ARE THE RIGHT KIND.

Brood sows for sale. Boars ready for service. Young sows ready to breed. Lots of pigs two to three months old; good long pigs with heavy bone. Prices right. Mention STOCK JOURNAL. R. WILLIS, Jr., Glen Meyer, Ont. 168



Canada Wilkes.

A first-class specimen of the most fashionable strain of Poland Chinas in the world at head of herd.

Stock of all ages for sale at hard-times prices

Send for illustrated catalogue of

POLAND CHINAS, POULTRY, and RASPBERRY PLANTS (In season)

Correspondence solicited, and personal inspection invited. Address,

CAPT. A. W. YOUNG, Tupperville, Ont. 399

TAMWORTHS

Some extra fine EXHIBITION PIGS



Pairs not akin. Also September, '94, boar, fit to head any herd. Satisfaction guaranteed. 278

JOHN C. NICHOL - Hubrey, Ont.

MAKE MONEY

By investing in some good TAMWORTHS. Let us know what you are in need of. Some fine stock now for sale, including boars fit for service, sows due to farrow in August and later. Grand lot of young pigs. Pairs not akin. Also Ayrshire Bull ready for service, and some fine cows and heifers.

CALDWELL BROS., 217 ORCHARD, Ont.

For the Finest Strains OF LONG

ENGLISH BERKSHIRE PIGS

Apply to Bow Park Co. (Ltd.) BRANTFORD 277 Canada.

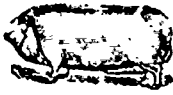
If you have stock for sale advertise it in the Stock Journal.



SWINE.

THOMAS DOLLIN & SON  
Chatham, Ont.

Importers and breeders of Ohio Improved Chester White Swine. Young stock of above a ways for sale. Satisfaction guaranteed, and prices to suit the times. Pedigrees furnished with all sales, and nothing but first class stock shipped. Four choice brood sows for sale, registered. Correspondence solicited.



LARGE ENGLISH BERKSHIRES.



My breeding stock has been selected from the best English herds. Two imported heifers, and eight imported sows all breeding. Pigs of all ages to select from.

ISRAEL GRESSMAN,  
NEW DUNDRE, Ont.

IT IS NO TROUBLE

To make money in breeding Duroc Jerseys if you can get the best blood to start with. Let me hear from you if you want something good. I have them at all ages, both sexes, and lowest prices. Also a few Yorkshires.



J. F. MASTER, New Dundee, Ont.

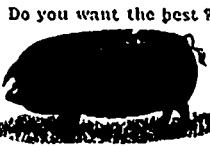
CHESTER WHITES  
and BERKSHIRES.  
The Best Herd in Canada.

Can supply pigs of any age. Send card for particulars and prices. No trouble to answer correspondence or to show stock.

JAS. H. SHAW,  
SIMCOE, Ont.

DUROC JERSEYS

You will run no risk in buying from us. We have now for sale: 6 boars fit for service, 12 sows ready to breed, 20 pigs a month old. An excellent lot of brood sows. Greatest prize winning herd in Canada. Our stock is the best procurable in the United States.



164 TAPE BROS., Ridgetown, Ont.

63 CHESTER WHITE SWINE.  
REGISTERED STOCK.

Tombow Geese, Pekin Ducks, Roman Turkeys, eggs \$1.50 per 11. Partridge and Bull Cochins, Plymouth Rocks, Silver Gray Dorkings, Golden, Silver, and White Wyandottes, Brown and White Leghorns, Black Hamburgs, American Dominiques, Black Red and Black Sumatras, and Indian and Pitt Games \$2.50 per 12. Will mix sittings if desired; also a few pairs of Wild Turkeys for sale. G. BENNETT & PARDO, Charing Cross, Ont.



If you want Improved Chester White Swine or Dorset Horn Sheep of first-class quality at rock-bottom prices, write to R. H. HARDING, Breeder and Importer, MAPLEVIEW FARM, 229 Thorndale, Ont.



ASHTON  
GRANGE FARM.

Improved Yorkshire and Berkshire Swine. Young stock from prize winners at leading shows or pairs of either breed now ready for shipment.

WM. TAIT,  
St. Laurent, Quebec,  
Near Montreal.

178

SWINE.

For the Next 30 Days

I offer the following first class Poland Chinas at greatly reduced prices:  
1 stock boar 2 years old;  
1 sow 2 years old, will farrow in August;  
1 yearling sow, will breed them;  
1 boar 9 months old.  
Write at once for prices and particulars.

WESLEY W. FISHER,  
Benmiller, Ont.; Goderich Station

You  
Are  
Invited

To come and see our stock or to write to us for prices and particulars. We have for sale 25 head of Chester White and Tamworth pigs from six to ten weeks old, from imported and prize-winning stock. Best quality. Lowest prices.

H. GEORGE & SONS,  
Crampton, Ont.

293

YORKSHIRES

Six weeks old for \$2.00. For full particulars write F. RUSSELL, Mount Forest, Ont.

PUREBRED TAMWORTHS.

A choice lot of spring pigs, farrowed last of February, now in grand shape to ship. Have also a limited number of young sows bred to farrow in July and August. I am making a specialty of this class of swine and keep no other.



LEVI MASTER,  
Hayville, Ont.

TAMWORTHS FOR SALE.

1 boar 10 months old,  
2 boars 7 months old,  
6 boars 3 months old,  
4 sows 7 months old,  
bred to "Woodland's Duke";  
9 sows 3 months old.  
Drop me a card for all information. Stock guaranteed.

J. L. REVELL, Putnam, Ont.

RED TAMWORTHS.

My breeding herd is almost all imported. The noted English herds are represented. Boars and sows old enough for mating, also some good spring litters all ready for shipment. Correspondence solicited.

ANDREW DUNN, Ingersoll Ont.

BERKSHIRES FOR SALE

My Berkshires secured a large number of the most important prizes at Toronto, Montreal and London exhibitions; also several prizes at the Fat Stock Show in Guelph, including acceptance for best purebred sow of any age or breed. A choice lot of all ages for sale. Please mention THE LIVE STOCK JOURNAL. GEO. GIBKEN, Fairview, Ont. Stratford Station and Telegraph Office.

POLAND CHINAS.

My herd is composed of the most popular strains of prize-winning blood from imported stock. A choice lot of spring pigs from imp. Black Joe ready to ship. Also a 12 month old sow due to farrow in August (a show sow).

OLIVER DRURY,  
Fargo, Ont.

215

Stock Notes.—Continued.

Mr. J. H. DOUGLAS, Warkworth, Ont., reports: My Ayrshires and Shorthorns are doing remarkably well. My calves from Dunham Chief are the best I ever had. They are beautifully marked and of the right dairy type. I am sorry to have to part with him soon, as his heifers are coming on. The two heifers I imported last fall are a fine pair, and will strengthen my young herd very much. They are both making beautiful udders, and I expect them to calve in July. Thanks to my advertisement in THE JOURNAL, I have had lots of enquiries and good sales for Ayrshires and Shorthorns.

MISSISS. MACKIE BROS., Elburne, B.C., write: We have bought the following cows from Messrs. James McCurnack & Son, Rockton, Ont.: Flossie Campbell, Polly 3rd, and Jessie of Rockton and Jessie of Rockton and calved on the farm. She had a nice heifer calf, but it got trampled upon and died. She is milking ten quarts a day as a two-year-old. We also bought a nice bull from the Guelph Experimental Farm. We have weighed and tested the milk of Jessie of Rockton and. She is giving 4 lbs. of milk a day, which tested 48 per cent. of butter fat.

MR. JAMES S. SMITH, Maple Lodge, Ont., writes: A short time ago we shipped on order to King's County Agricultural Society, N.S., a very handsome young bull from one of our best milking cows, and are pleased with the following lines from a letter of the secretary of the society, Mr. A. G. Goodacre, when acknowledging the receipt of the bull: "He is a beauty, well got up all around, and has what I like to see, length. Many are too chunky. You have more than filled the bill, and I am sure you have the thanks of all concerned, and of myself especially." King's County Agricultural Society is, we believe, the oldest agricultural society in Canada, being founded in 1794. There is one older in America.

MR. F. C. SIBBARD, "The Briars," Sutton West, Ont., writes: All my animals have done well, as there are none but strong and healthy ones left. All the cows had calves, and two heifers that were too precocious found their way to the Sultan's barn. I have five yearling bulls and twelve early bull calves for sale, already registered, the latter running with their dams, and as the price of beef cattle is going up there ought to be a good demand for them this fall. The herd has been carefully selected, so that its merits are steadily improving. The one three-year-old bull, Marinka Duke 10th, will be for sale this fall. His stock should be good prize winners. I have received satisfactory reports from my agent at Yorkton, N.W.T. Prices are looking up, although lower than they were three years ago.

MR. A. C. HALLMAN, New Dundee, Ont., writes: Cattle are doing well, although a severe drought seems to be setting in, and the horn fly is playing sad havoc. I have a very select lot of richly-bred bulls sired by such rare sires as Netherland Statesman's Cornelius, the silver medal bull and first prize winner at Toronto for so many years. My Tamworths are multiplying fast and doing splendidly. I have some of the finest specimens of the breed, especially in young pigs, that I ever saw. I have just added fresh blood in the shape of a very choice mature boar. He is the correct type for the bacon trade, and I think will help to keep up the high standard of my herd. My Yorkshires are also doing well. I must acknowledge, after a number of years' experience with THE JOURNAL, that it is not only a most valuable advertising medium, but always filled with thoughtful, practical reading matter, which should be read by every Canadian agriculturist.

MISSISS. CALDWELL BROS., Orchardville, Ont., say: Since writing to you last we have sold our bull, Albion Chief 868, to Mr. J. A. Carrick, Kincardine, Ont. He was a fine individual and a grandly-bred bull, being sired by Messrs. Morton & Sons' imported Royal Chief, and out of their famous prize-winning cow, Maggie Brown of Harrods Hill. We have a grand lot of heifers sired by him, and also a few young bulls, one or two ready for service. We have also sold a son of Albion Chief to Messrs. James Hamilton & Sons, Glen Huron, Ont., and one to Mr. M. Hallantyne, St. Marys, Ont., and a heifer in calf to Mr. John Wright, Hawkeston, Ont. We have also recently shipped Tamworths to Messrs. Duncan Fremlin, Bar River, Ont.; Jarvis Paul, Florence, Ont.; W. W. Fisher, Benmiller, Ont.; and W. Caldwell, Durham, Ont. We have one boar still on hand ready for use, and a grand lot of young ones six to ten weeks old.

MR. J. W. BARNETT, manager for Messrs. W. C. Edwards & Co., Rockland, Ont., writes: The outlook for Shorthorns has improved wonderfully in this section within the last two months. The people down here are finally becoming awake to the fact that the Shorthorn is the farmer's cow. We shipped quite recently a bull to Mr. Alexander Fraser, Westmeath, Ont.; one last week to Mr. Michael Moran, Arnprior, Ont.; and to-day we ship one to Mr. Alexander Lamden, Ottawa. We have a very good yearling still on hand. We also have left the two imported bulls, Knight of Lancaster and Scottish Sportsman. They are full brothers, got by Scottish Archer, dam Lady Lancaster 6th, by Gravesend. We would part with either of them. They are tight, and their breeding is of the best. The cows are all going nicely on the grass, and the calves are coming on well. They are decidedly the best lot yet produced at Pine Grove. Intending purchasers would do well to come and see them.

MISSISS. TAPE BROS., Ridgetown, Ont., can dispose of some excellent Duroc Jersey swine of various ages.

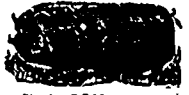
MISSISS. J. C. SMITH & Bros., Edmonton, Ont., have a particularly choice lot of Berkshires and Jerseys on hand for sale.

For Horses and Cattle  
Use Dick's Blood Purifier

SWINE.

LARGE ENGLISH BERKSHIRES.

Bright Prince, a never-to-be-forgotten winner, assisted by Homer Boy. Grand young heifers and sows now for sale, also choice star piglets.



Sunnyside Stock Farm, T. A. COX,  
Brantford, Ont.

HAVE YOU ANY  
FINE SHOW PIGS?

If not, I would like to hear from you. I have for sale an excellent lot of Tamworths under six months.

WM. ROW,  
Avon P.O.,  
Ont.

HORSES.

Two Fillies

2 and 3 years old, for sale, registered in American C Stud Book, fine colors and good animals in every way. The 3-year-old is bred. Let me hear from you early, if you want a bargain.

JNO DAVIDSON, Ashburn, Ont.

POULTRY.

Berkshires  
and Poultry

The best in Canada. Write for particulars to G. J. Wright, Dixville, Que.

THEY MUST GO.

The breeding season being over, and as we have raised a large number of very promising chicks, we offer all this year's breeders for sale, which includes several prize winning and

VALUABLE BIRDS.

We have also a choice lot of early chicks that will make winners at the fall fairs. If you want anything in W., S., and G. Wyandottes, or B.P. Rocks, send for catalogue and particulars. Prices, \$1.00 to \$1.50. If you want the celebrated WRIBSTER & HANNUM HONE-CUTTER write me.

JOHN J. LENTON,  
Park Farm, OSHAWA, Ont.

MISCELLANEOUS.



FOR  
Butter . .  
AND  
. . Cheese

If you expect to secure the highest price for your butter and cheese, salt is the one thing you cannot economize on. Nothing but the best is good enough, and the best is

WINDSOR SALT.  
Every first-class dealer keeps it.

# The World-Beater of the Pea Field

## Wettlaufer Bros.' Pea Harvester

Testimonial from W. W. BALLANTYNE, son of the HON. THOS. BALLANTYNE, M.P.P.:

I bought one of the Wettlaufer Bros.' Pea Harvesters, and I worked on smooth and rough ground, cutting twenty acres with it. It is far ahead of all Pea Harvesters I ever saw or heard of. It has no reel behind, nor hinge, which all other Pea Harvesters have.

DOWNIE, September 21st, 1895.  
W. W. BALLANTYNE.

**WETTLAUFRER BROS. - - - Stratford, Ont.**

**For Sale**  
(without reserve) in  
**September, 1895**

**STALLIONS,**  
**3 French Coach**  
**3 Glydesdale**  
**15 Percherons**

All purchased and registered. Every one guaranteed as a sure foal-getter.  
The balance unsold, if any, will be sent to the United States in September.

For particulars apply to  
**THE HARAS NATIONAL CO.,**  
30 St James Street,  
MONTREAL.



EVERY farmer should at once begin to deal with the pest above delineated, if it is found on his farm. It is very common on some farms, and is rapidly spreading into parts where lately it was unknown. How to deal with it effectually without losing a crop, and at the same time with benefit to the soil in which it is found, is something worth knowing. Professor Shaw's valuable book on "Weeds" will tell you—not only how to deal with this pest, but with every other pestiferous weed that is prone to injure your crops. Send for it. Only 75 cents. Neatly bound and illustrated and sent postpaid. Address:

THE BRYANT PRESS, 20 Bay St., Toronto.

### Montreal Exposition.

### Fourth Provincial Exhibition

SEPTEMBER 12th to 21st, '95

Agricultural and Industrial Grand Show of

LIVE STOCK  
DAIRY AND  
HORTICULTURAL  
PRODUCTS

SPLendid SHOW ASSURED

Apply early for space to

**S. C. STEVENSON,**  
70 ST. GABRIEL ST., MONTREAL.

### It is not Paradise,

But

If you have some cash in spare and are willing to work, financial independence cannot be more surely secured than by having a few acres of irrigated land in Salt River Valley.

This valley is in Southern Arizona, and is noted for its fine semi-tropical fruits and superior climate. Horticulturists say that greater profits can be realized here from oranges and grapes than in Florida or California. Physicians assert that the warm, dry, bracing climate excels in healing qualities Italy's balmy air. The great blizzard of '83 did not blight the tenderest leaf in this protected spot.

To get there, take Santa Fe Route to Phoenix, A. T., via Prescott and the new line, S. F. & P. Ry. Address: P. T. Hoody, 61 Griswold Street, Detroit, Mich., for illustrated folders. They tell the story of a remarkable country. Actual results are given—no guesswork or hearsay.

It is the

**Salt River Valley.**

### Dairying for Profit

- Is read by all good dairymen. Given for one new subscriber to The Canadian Live Stock and Farm Journal.

### Stock Notes.—Continued.

Mr. JAMES H. SHAW, Simcoe, Ont., has a number of Chester White and Berkshire sows of various ages that he can supply to customers desiring anything in that line.

Mr. LEVI MASTERS, Haysville, Ont., writes: I am well pleased with the results of my advertisement in THE JOURNAL. Enquiries come in lively, and I have been able, in consequence, to make sales. My Tamworths are in good condition, and in Shirey Hank Hugo I have a sire at the head of my herd that is hard to beat.

Mr. T. A. COX, Brantford, Ont., writes: Since Mr. Shore was here my young sow, Royal Beauty, has farrowed a fine litter of seven, six sows and a boar. She is a daughter of the famous Teasdale sow, Royal Lady, who won first at Toronto in the aged sow class, and first for sow and four of her progeny last fall, Royal Beauty being one of the four. Mr. Cox has Berkshire pigs and Shropshire sheep advertised in this issue.

Mr. WALTER W. FISHER, Benniller, Ont., writes: Sales have been very good this spring. I had lots of orders that I could not fill, being nearly sold out. The following are some recent sales: A sow to Mr. W. O'Dore, Trout Creek, Ont.; a pair to Mr. John Lowe, Innesville; a pair to Mr. P. G. Murdoch, Wingham; a pair to Messrs. Caldwell Bros., Orchardville; a sow to Mr. Wm. Bell, Shakespear. I have a number yet to ship. The stock bear I offer for sale is a very good one, and so are the sows.

Mr. J. F. MASTER, New Dundee, writes: The following are some recent sales of swine: To Mr. Noah Bechtel, Haysville, Ont., a Yorkshire boar; to Mr. Albert Kauffman, Washington, Ont., a Yorkshire boar; to Mr. A. Rosenberger, Haysville, Ont., for Yorkshire sows and a boar; to Mr. Andrew Elliott, Galt, Ont., a Tamworth boar; to Mr. J. H. Erb, Beamsville, Ont., a Tamworth boar and sow; to Mr. Levi Master, Haysville, Ont., a Tamworth sow. There was a lively demand for Tamworth boars this spring, but having been unfortunate with some early winter litters, and being determined to ship nothing but good stock, I missed several sales thereby, but my stock this spring is doing finely, and I can furnish as many pigs at prices consistent with good quality and hard times.

### Sheep.

Messrs. J. COLEMAN & SONS, Harrison, Ont., write: We have had great success with our sales this season, and have sold our young stock very close. We have a few Oxford Down rams, Yorkshire pigs, and Plymouth Rock poultry still to dispose of.

Mr. HENRY ARKELL, Arkell, Ont., writes: I send you, by post, a sample of wool off a cross between Oxford Down rams and Merino ewes, sent to me from Mr. Robert Jones, Wyoming. I leave you to judge of its quality for yourselves. [The three samples sent are of beautiful quality.—Ed.] For my part I think it grand. I sold Mr. Jones a carload of Oxford rams two years ago, and another last fall. He talks of wanting another this fall, and says that they are the coming sheep for the western ranges. He claims that he gets top prices for his lambs, and that they combine size, quality and quantity of wool, and superior mutton, are very hardy, and come to maturity very early. I sent about a month ago ten yearling rams to Mr. Rosenkows, N.H. He writes that he is well pleased with them. He is going to test the breeds. He has Shropshires, Cotswolds, Lincoln, Dorsets, and Oxfords, and says that he will send me full particulars of the test. I also had a visit from Mr. Aaron Lordwill, Fargo, N.V., a few days ago, and made some sales to him. My show sheep are coming on well, and are in fine order. I am sitting forty, and all are sold for July and August shipments to go to the United States for exhibition purposes. I have 120 yearling and two-year rams on hand, which I expect to sell to western range men. We need rain very much. Hay and pasture lands are suffering badly.

### Poultry

Mr. C. J. WRIGHT, Dixville, Que., wishes to purchase Buff Cochins and Black Minorcas.

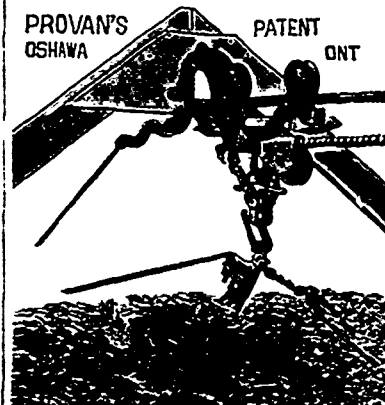
**Spavins, Ringbones, etc. Cured by Dick's Blister.**

## PROVAN'S

(Improved Malleable and Steel)

## Horse Fork and Sling

Has been awarded first prize at all competitions, both in Canada and the United States, the latest victory being the only Medal and Diploma given on Hay Carriers, Fork and Sling, at the World's Fair at Chicago. The jurors were unanimous, and many valuable points of undoubted superiority were alluded over an extensive exposition.



**PROVAN'S PATENT OSHAWA ONT**

**SIMPLE, STRONG, DURABLE.**

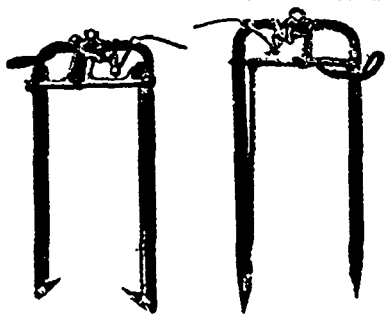
Many farmers who had other kinds have taken them down, and bought mine after seeing it work. My Machine Handles Sheaves as well as Hay and Peas. It is the simplest and Best Stacker Manufactured.

Our machine has been in successful competition for seven seasons, and its superiority over all others is now placed beyond a doubt. It is the only Double-Acting and Self-Reversing Machine on the continent that has the following advantages: A loaded fork or sling can pass the stop block. Our Pulley Hoister instantly raises or lowers the pulley from or to the peak, thus avoiding climbing or untying the rope from the whiffletree. The track used with this car is the best for the following reasons: It acts as a strengthening brace to the barn. It never warps or is affected by a side draw. The car runs easily, and can be readily moved from one barn to another. For unloading at the gable we have much the strongest end-lift. It takes up less room, and does not disfigure or weaken the building with posts or projecting beams.

While we do not recommend a Wood Track, we claim to have the latest improved and most reliable working Wood Track Car on the market.

### GUARANTEE.

We guarantee every machine sold by us to do first-class work, and to unload one ton of hay in from three to five minutes, when properly handled and put up; and, if it fails to do so, will be taken back and money refunded.

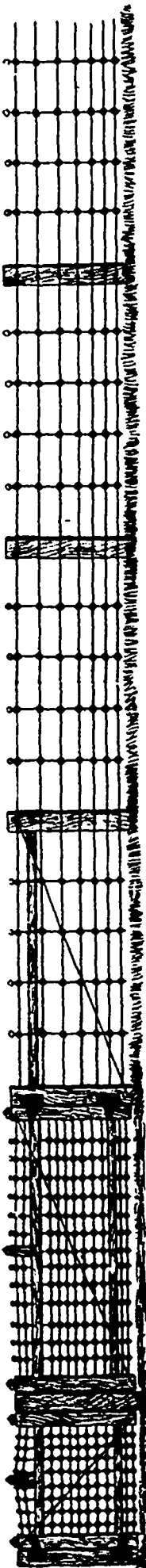


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It has been for years a part of our business to send our machine on trial to fair-minded, responsible farmers living at remote distances, such machine to be put up by them and used until their harvesting be half done, when they are required to decide whether they will keep their apparatus or return it; if the latter we will pay return freight charges.

**J. W. PROVAN**  
OSHAWA, ONTARIO

Sole Manufacturer and Patenteo.



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**Locked-**  
**Wire**  
**Fence**  
**Company**  
**INGERSOLL,**  
**ONT.**

The accompanying cut represents five panels of fence and gate of the **LOCKED-WIRE FENCE**, which is now built with improved corrugated hardened steel stay, and Bessemer steel clamp, a combination which is proof against the most wiry stock or designing men. The crimp in the wire, in combination with steel clamps, when locked acts as a spring, adjusting the fence to heat or cold.

**Perfectly Safe.**  
**Stronger,**  
**Better,**  
**and Cheaper**

than any other fence, and without doubt the best fence on the American continent.

All persons having wire fences erected in the past should use the stays and steel clamps of the Locked Wire Fence Co. on them. The crimp consumes all the slack, makes the fence tight, and adds over 100 per cent to its value, at a very small cost.

We desire to inform the farmers and public generally that we are prepared to supply the material or erect this fence throughout the Dominion of Canada.

Recollect, we are the only firm that is furnishing the genuine material in the form of the corrugated hardened steel stay and Bessemer steel clamp.

**THE BEST**  
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**MADE FOR**  
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**RAILROADS.**

**AGENTS WANTED** in every township.

Send for circulars and particulars.

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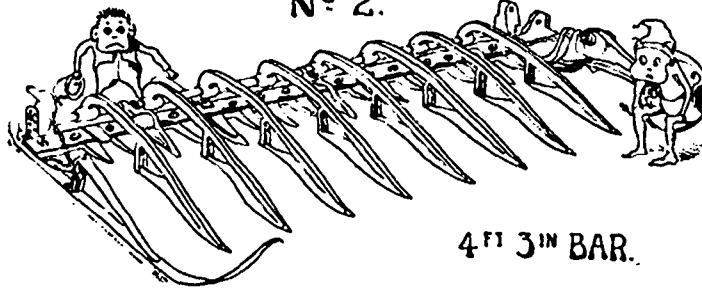
**THE**  
**Locked - Wire**  
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**INGERSOLL, - ONT.**  
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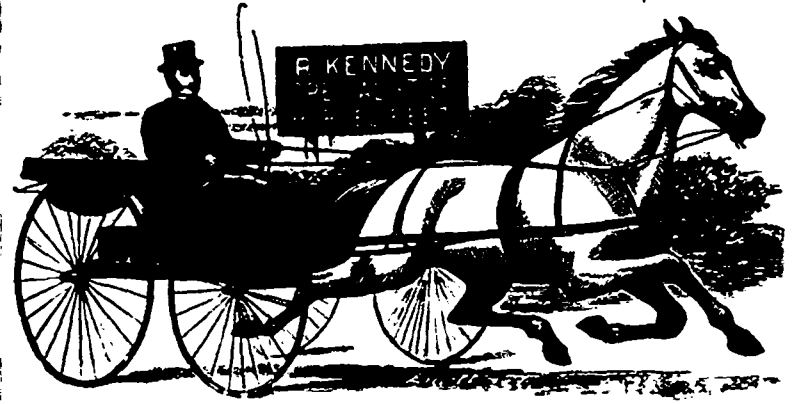
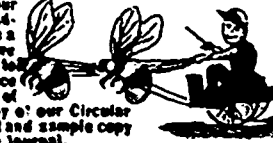
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**W.M. DONALDSON**, Huntingford, South Zorra P.O., Ont., Breeder of Shorthorns and Shropshire Down sheep. 204

**W.M. DOUGLAS**, Caledonia, Ont., Breeder of Shorthorn Cattle. Young stock for sale at all times. 324

**W.M. TEMPLER**, Breeder of purebred Shorthorn Cattle and Berkshire Pigs, Wood Lawn Farm, Jerseyville P.O., Ont. Telegraph Office and R. R. Station, Copetown, G.T.R. Young stock for sale. 199

**HENRY SMYTH & SONS**, Chatham, Ont., Breeder of pure Shorthorn Cattle. Young stock for sale. 204

**H.K. FAIRBAIRN**, Rose Cottage, Thedford, Ont., Breeder of Scotch Shorthorn Cattle. Stock for sale. 497

**A. SMITH**, Molesworth, Ont., breeder of Scotch Shorthorns. Young stock by Earl of Aberdeen—12430—for sale. Write for particulars. 119

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**M. & R. SHAW** Brantford, Ont., Breeders of Galloway Cattle. Choice young animals for sale. 360

**DAVID McCRAE**, Janeville, Guelph, Canada, importer and breeder of Galloway cattle, Clydesdale horses and Cotswold sheep. Choice animals for sale. 251

**AYRSHIRES.**

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**J. McCORMACK**, Rockton, Ont., breeder of Ayrshire Cattle, Toulouse Geese, and Colored and Silver Grey Dorkings. 252

**W.M. & J. C. SMITH**, Fairfield Plains, Ont., breeders of World's Fair prize-winning Ayrshires, Merino Sheep, Poland China Pigs, and Poultry stock for sale. 280

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**W.F. & J.A. STEPHEN**, Brook Hill Farm, Ont., Trot River, Que., breeders of Ayrshire Cattle and Yorkshire pigs. Young stock for sale at reasonable prices. 243

**THOMAS IRVING**, Montreal, Importer and Breeder of Ayrshire cattle and Clydesdale horses. Choice young Ayrshire bulls and heifers bred from Chicago winners for sale. Write and get prices and other particulars. 296

**WALTER NICHOL**, Plattville, Ont., Breeder of Ayrshire Cattle and Leicester Sheep. Choice Young Stock for Sale. 190

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**MESRS. G. SMITH & SON**, Gainsby, Ont., breeders and importers of Pure St. Lambert Jersey and Welsh ponies of choicest quality and breeding. Stock always for sale at reasonable prices. Correspondence solicited. 233

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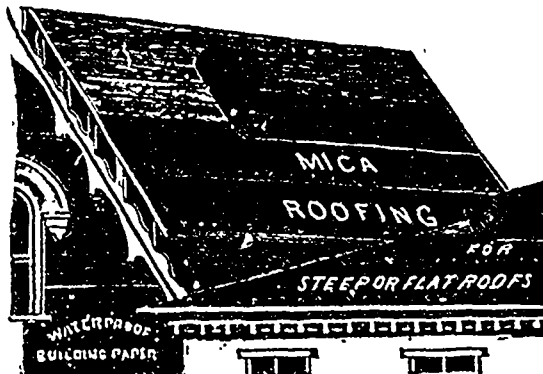
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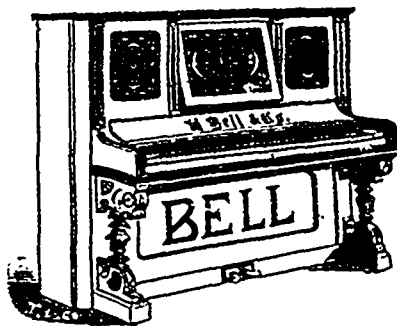
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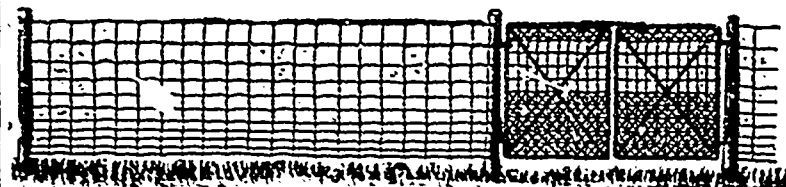
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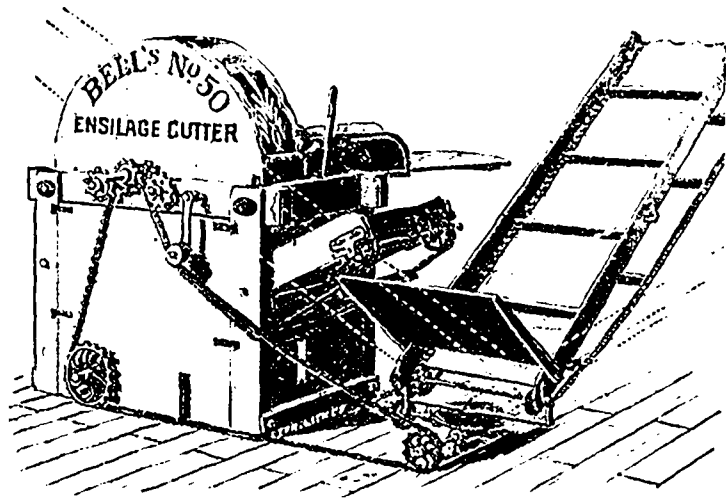
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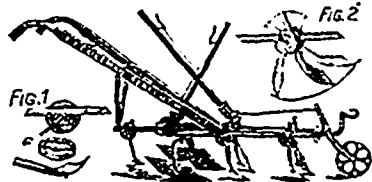
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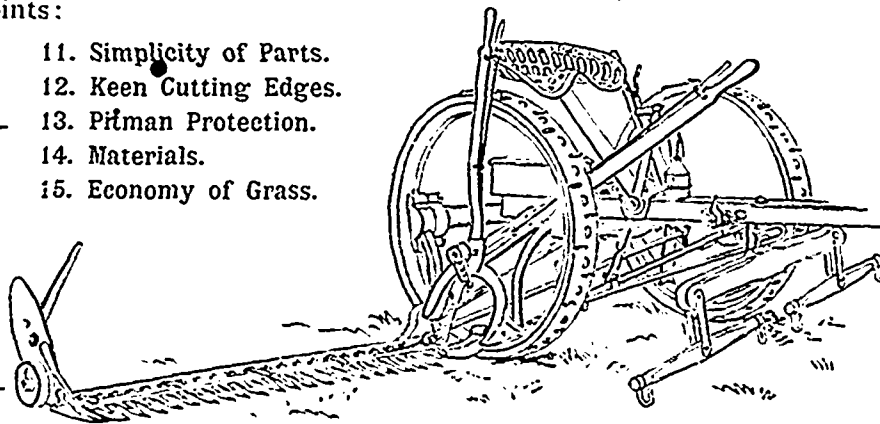
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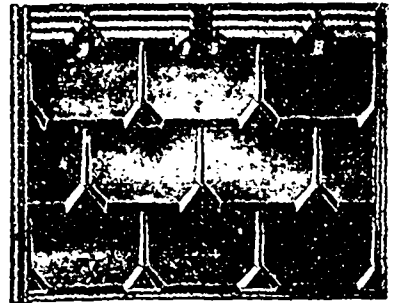


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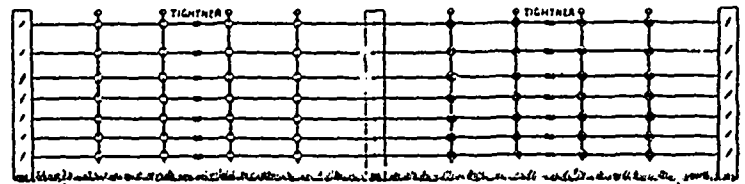
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